REGENTS' ANNUAL REPORT

Sixteenth Annual Register

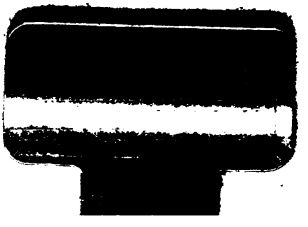
Nevada State University

Reno, Nevada

1903

With Announcements for the Academic Year of 1904-1905

Carson City, Nevada
State Printing Office. : : : Andrew Maute, Superintendent
1904



Sixteenth Annual Register

Nevada State University

SIXTEENTH ANNUAL REGISTER

OF THE

NEVADA STATE UNIVERSITY

FOR THE YEAR 1903

WITH

ANNOUNCEMENTS FOR THE ACADEMIC YEAR OF 1904-1905

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UNION
LABEL

SIXTEENTH ANNUAL REGISTER.

OFFICE OF THE
BOARD OF REGENTS OF THE STATE UNIVERSITY,
RENO, NEVADA, January 4, 1904.

To His Excellency, JOHN SPARKS, *Governor of the State of Nevada.*

SIR: The Regents of the State University have the honor to submit herewith the Annual Register of the University for the year 1903, containing the courses of study, general information, the membership of the Faculty, and the enrollment of the students, as required by the Act of the Legislature approved March 6, 1901.

By the Board of Regents:

RICHARD KIRMAN, President.

GEO. H. TAYLOR, Secretary.

JOHN NEWTON EVANS,

PRESIDENT OF THE BOARD OF REGENTS.

JOHN NEWTON EVANS was born in Defiance, Ohio, May 13, 1835. He died in Reno, Nevada, Saturday morning, November 14, 1903. Between the dates given his life reached 68 years and 6 months; and these years have witnessed the most striking changes in Ohio, where he was born and lived to early manhood, and in Nevada, which became the field of his energy as a man and a citizen.

The most salient point of interest in the character of Mr. Evans is, that while he was one of the early pioneers of this State, he was likewise one of its later and most progressive citizens. He was as keenly alive to his personal business, to plans for its successful management, to questions of public welfare, at the day of his death, as at any time during his younger days. This was seen most clearly in his election and conduct as a Regent of the State University. Elected in 1896, reëlected in 1900, he had accomplished seven years of highly useful service as President of the Board of Regents. Some fear was expressed when he came on the Board that his training might make him narrow, and his disposition might be in opposition to plans that were made to promote the University and its interests. No fear ever had less foundation. Mr. Evans was elected President of the Board at its first meeting, and was reëlected President after his reëlection. From the beginning to the close he was able in his administration, wise in his counsel, progressive in his plans for the University and most agreeable to his colleagues on the Board of Regents and to the President of the University. When this University was moved from Elko to Reno he sold the land on which to build it and urged upon the Regents the purchase of additional land, because, as he said, "The University will grow and will soon reach out beyond the limits of the land which you have purchased." In 1895 he acquiesced in the plans of the Board of Regents that enabled them to purchase the land which extended the boundaries of the University to Virginia street on the west and to Ninth street on the south. At the time of this purchase the present athletic ground presented to the Faculty a very attractive place for the college sports. Mr. and Mrs. Evans therefore leased ground to the extent of about six acres, and to-day this tract of land forms one of the most interesting features of college life.

At the last meeting of the Board of Regents, held on the 7th of November, a plan was submitted by the Faculty for the celebration of the founding of the University thirty years since at the next annual Commencement. This celebration was to cover all phases of University history, the pioneers who founded it, the Regents who have directed its affairs, the alumni who have graduated from it, the young men and women who have been or are students; the growth of the University and its influence upon the progress of education in the State. The Faculty Committee was received most cordially by the Regents and the plans proposed were endorsed by no one more heartily than by the President of the Board, who promised his earnest coöperation.

The University in the death of Mr. Evans will miss his judgment and counsel, which have always been given for the good of the Faculty and students. It mourns him sincerely, and it will seek to enshrine his memory in some form that will make his work and worth known to those who shall come after him.

J. E. STUBBS.

Resolutions of Respect.

WHEREAS, Mr. John Newton Evans, President of the Board of Regents of the Nevada State University, has been called by death in the prime and fullness of his vigor, therefore be it

Resolved, That we, his associates of the Board of Regents, at a meeting assembled this 17th day of November, 1903, do declare:

First, That we sincerely mourn the death of the President of the Board of Regents.

Second, That we desire to place on record our esteem for the able and unfaltering way in which he administered the affairs of his responsible office.

Third, That we desire to bear tribute to his high sense of duty and intelligent discharge of the trusts confided to him and his sincere devotion to the details of every plan that had for its object the improvement and growth of the institution.

Fourth, That for his many personal qualities which endeared him to us, his broad views, his liberality, his kindness, often veiled, but no less genuine, his unfailing courtesy to his colleagues, of all these, and many more, we desire to make loving mention.

Fifth, That the Secretary of the Board of Regents is hereby directed to engross these resolutions on the records of the Board of Regents, to deliver an engrossed copy to the bereaved family of our associate, and to request the State papers to publish these resolutions.

W. W. BOOHER,
RICHARD KIRMAN,
Regents.

Attest: GEO. H. TAYLOR, Secretary.

UNIVERSITY CALENDAR.

SECOND SEMESTER, 1903–4.

1904. January 6–7	Wednesday–Thursday	Examinations for admission.
January 6–7	Wednesday–Thursday	Reëxaminations to remove conditions.
January 8	Friday	Matriculation and registration of students.
January 10	Sunday	University convocation at 3 p. m. in Gymnasium.
January 11	Monday	Recitations and lectures begin.
February 22	Monday	Washington's Birthday.
Mar. 31–Apr. 3	Thursday–Sunday	Easter recess.
June 2	Thursday	UNIVERSITY COMMENCEMENT.

SUMMER VACATION.

June 3	Friday	Summer vacation begins.
August 30	Tuesday	Summer vacation ends.

FIRST SEMESTER, 1904–5.

August 31	Wednesday	All new students will meet the Committee on Admission and Credentials in the Library at 9 o'clock a. m.
September 1–2	Thursday–Friday	Examinations for admission.
September 1–2	Thursday–Friday	Reëxaminations to remove conditions.
September 2	Saturday	Matriculation and registration of students.
September 4	Sunday	University convocation at 3 p. m. in Gymnasium.
September 5	Monday	Recitations and lectures begin.
November 24	Thursday	Thanksgiving Day.
December 21	Wednesday, 4:30 p. m.	First semester ends.

CHRISTMAS VACATION.

December 22	Thursday	Christmas vacation begins.
1905. January 3	Tuesday	Christmas vacation ends.

SECOND SEMESTER, 1904–5.

January 4	Wednesday	All new students will meet the Committee on Admission and Credentials in the Library at 9 o'clock a. m.
January 5–6	Thursday–Friday	Examinations for admission.
January 5–6	Thursday–Friday	Reëxaminations to remove conditions.
January 7	Saturday	Matriculation and registration of students.
January 8	Sunday	University convocation at 3 p. m. in Gymnasium.
January 9	Monday	Recitations and lectures begin.
February 22	Wednesday	Washington's Birthday.
April 20–23	Thursday–Sunday	Easter recess.
June 1	Thursday	UNIVERSITY COMMENCEMENT.

NOTE—Students, except new students, who apply for registration on days other than those named in the Calendar will be charged a fee of two dollars.

OFFICIAL ORGANIZATION.

The University comprises three main departments, as follows:

THE COLLEGES.
THE AGRICULTURAL AND MECHANICAL COLLEGE.
THE AGRICULTURAL EXPERIMENT STATION.

The Regents of the University and the Board of Control of the Experiment Station are elected, two every four years and one every two years.

THE REGENTS OF THE UNIVERSITY.

The Hon. RICHARD KIRMAN (1903–1905), President ..... Reno
The Hon. W. W. BOOHER (1903–1907) ..... Elko
The Hon. JNO. EDWARDS BRAY (December 1903–1905) ..... Reno
Mr. GEORGE H. TAYLOR, Secretary ..... Reno

THE AGRICULTURAL EXPERIMENT STATION.

THE BOARD OF CONTROL.

The Hon. RICHARD KIRMAN (1903–1905), President ..... Reno
The Hon. W. W. BOOHER (1903–1907) ..... Elko
The Hon. JNO. EDWARDS BRAY (December 1903–1905) ..... Reno
Mr. GEORGE H. TAYLOR, Secretary ..... Reno

STATION STAFF.

JOSEPH E. STUBBS, Director ..... Publications
NATHANIEL E. WILSON, M.Sc., Vice-Director ..... Chemistry and Dairying
P. BEVERIDGE KENNEDY, Ph.D. ..... Botany, Horticulture and Forestry
PETER FRANDSEN, A.M. ..... Zoölogy and Bacteriology
SAMUEL B. DOTEN, B.A. ..... Entomology and Meteorology
GORDON H. TRUE, B.S. ..... Agriculture and Animal Husbandry
THEODORE W. CLARK ..... Superintendent of Farm
IRVIN W. AYRES, M.A. ..... Librarian
ELIZABETH STUBBS, B.A. ..... Stenographer

OFFICIAL ORGANIZATION—*Continued.*

THE HONORARY BOARD OF VISITORS.

The Hon. C. H. BELKNAP, Chairman	Carson City, Ormsby County
The Hon. J. W. FREEMAN	Stillwater, Churchill County
The Hon. D. W. VIRGIN	Genoa, Douglas County
The Hon. E. S. FARRINGTON	Elko, Elko County
The Hon. E. J. HENLEY	Hawthorne, Esmeralda County
The Hon. MOSES REINHART	Winnemucca, Humboldt County
The Hon. W. C. GAYHART	Austin, Lander County
The Hon. A. S. THOMPSON	Pioche, Lincoln County
The Hon. J. E. GIGNOUX	Dayton, Lyon County
The Hon. ANDREW MAUTE	Carson City, for Nye County
The Hon. J. D. TORREYSON	Carson City, Ormsby County
The Hon. M. R. AVERILL	Virginia City, Storey County
The Hon. T. V. JULIEN	Reno, Washoe County
The Hon. SOL HILP	Ely, White Pine County
The Hon. BERT L. SMITH	Eureka, Eureka County

EXCERPT FROM THE STATUTE CREATING THE HONORARY BOARD OF VISITORS.

Compiled Laws of 1900, Sections 1406–1410.

Governor to Appoint Members.

1407. SEC. 2. The Governor shall appoint and commission, within forty days after the passage of this Act, from each county, one suitable and discreet person who is interested in higher education, and who is an actual resident of said county, as a member of said Board.

Duties of Board.

1408. SEC. 3. It shall be the duty of said Board of Visitors to meet annually at the seat of the Nevada State University during Commencement week, and inspect the grounds, buildings and equipment of said University, and also inquire into the actual state of the discipline, instruction, police administration and other affairs or concerns of the University. The Board of Visitors shall report thereon to the Governor, within thirty days after each annual meeting, for the information of the people of the State and of the next succeeding Legislature of the State, their action as such visitors, with their views and recommendations concerning the University, such as they shall deem wise and just and for the best interests of the University.

Notice to Honorary Board of Visitors.

1409. SEC. 4. The President of the University shall cause at least thirty days' notice to be given to the members of the Honorary Board of Visitors of the time and place of their annual meeting.

Expenses of Members.

1410. SEC. 5. No compensation shall be made to the members of said Board of Visitors for their services or for their traveling expenses, but the Board of Regents shall pay out of the University Contingent Fund their expenses for board and lodging while at the University.

MILITARY ESTABLISHMENT.

Commandant of Cadets:

Captain CHARLES T. BOYD, 10th Cavalry, U. S. Army.

BATTALION ORGANIZATION.

For instruction in Infantry Tactics and in military police and discipline, the Cadets are organized into a battalion of two companies and band. The officers and non-commissioned officers are selected from those Cadets who have been most studious, soldier-like in the performance of their duties, and most exemplary in their general deportment. The Officers are taken from the Senior class; the Sergeants from the Junior class; and the Corporals from the Sophomore class.

Major:

F. WARNER GRAHAM.

"A"	*Captains:*	"B"
F. A. NATHAN[2]		W. B. THOMPSON[1]

First Lieutenants:

W. P. CATLIN,[1] Battalion Adjutant.

F. J. DELONCHANT[3]	G. F. WEST[2]

Second Lieutenants:

J. V. COMERFORD, Battalion Quartermaster and Commissary.

CASSIUS C. SMITH, Battalion Sergeant-Major.

First Sergeants:

C. W. STARK[1]	H. B. BULMER[2]

Quartermaster Sergeants:

H. LOUDERBACK[1]	H. C. CHISM[2]

O. F. HEIZER, Drum-Major.

H. M. STANDERWICK, Chief Trumpeter.

L. A. SPELLIER, Sergeant of Band.

Sergeants:

J. NESBITT[3]	W. J. O'NEILL[4]
H. T. WILKERSON[6]	C. E. BULL[5]
C. L. SMITH[8]	W. POPE[7]
I. STECKLE[10]	A. STECKLE[9]
F. D. BRADLEY[12]	W. PEARSON[11]

Corporals of Band:

D. H. UPDIKE[4].

E. E. HOFFMAN[7].

Corporals:

H. L. JONES[2]	B. C. MCBRIDE[1]
J. D. SCOTT[3]	L. S. WEATHERS[5]
L. E. ELLIOTT[9]	C. C. TAYLOR[6]
W. J. O'BRIEN[10]	F. D. BLACK[8]

The figures indicate relative rank.

ASSOCIATION OF UNIVERSITY ALUMNI.

President ..... Elizabeth Stubbs, '99
Vice-President ..... Fenton A. Bonham, '01
Secretary ..... Kate Riegelhuth, '97
Treasurer ..... Maude M. Wheeler, '96

EXECUTIVE COMMITTEE.

Elizabeth Stubbs, '99,
Fenton A. Bonham, '01,
Kate Riegelhuth, '97,
Maude M. Wheeler, '96,
Harry E. Stewart, '94,
Peter Frandsen, 95.

ASSOCIATION OF NORMAL ALUMNÆ.

President ..... Miss Jennie Jameson, '94
Vice-Presidents ..... President of each class
Secretary ..... Mrs. May Brown, '92
Corresponding Secretary ..... Mrs. A. W. Cahlan, '95
Treasurer ..... Mrs. Ed. Shaver, '00

Executive Committee—Chairman, Mrs. Frank Norcross, '90.

UNIVERSITY SCHOLARSHIPS AND PRIZES.

The Oscar J. Smith Scholarship of $50 was awarded to A. H. Steckle, '05.

The Mrs. Oscar J. Smith Scholarship of $50 was awarded to Miss Emily Berry, Normal, '03.

The University Alumni Scholarship of $50 was awarded to Alwine Sielaff, '06.

The Normal Alumnæ Scholarship of $50 was awarded to Georgella Lowrey, '05.

The W. T. Smith Scholarship of $25 was awarded to H. L. Jones, '06.

The W. W. Booher Scholarship for Domestic Arts was awarded as follows: $10 for best sewing, Laura Arnot, '04; $10 for best cookery, Georgina Delonchant, Special; $5 for most improvement, Agnes Gibson, '04.

The President's Prize for Domestic Arts was awarded as follows: $10 for best loaf of bread, Miss Mira Arms, '03; $10 for second-best loaf, Miss Edna Thyes, Special; $5 for third-best loaf, Miss Laura McDermott, '06.

The Cheney Trophy was awarded to the Alpha Beta Literary Society.

UNIVERSITY ADDRESSES.

Annual Commencement Address, Wednesday, June 3, 1903, by Professor ADOLPH C. MILLER of the University of California. Subject: "Some Demands of the New Industrial Order Upon the Universities."

Annual Baccalaureate Sermon, Sunday, May 31, 1903, by Rev. WILLIAM RADER, D.D., of San Francisco.

Annual Scholarship Address, Wednesday, June 3, 1903, by Mr. CHARLES A. BUTTERS, A.B., of Virginia City.

Convocation Address, Rev. SAMUEL UNSWORTH.

Dean HENRY THURTELL: "To the Student." "Current Topics."
Professor N. E. WILSON: "Aims of the Student." "Poisons."
Mr. ALLEN S. EDE: "Student Ideals."
Professor ROBERT LEWERS: "Bank Checks."
Professor ROMANZO ADAMS: "Recent Development of American Universities."
Mr. IRVIN W. AYRES: "Distinctive Features of the University of Virginia." "Self Reliance in Student Enterprises."
Mr. F. W. TAYLOR: "The St. Louis Exposition."
Rev. Father HORGAN: "Christianity vs. Paganism."
Professor S. B. DOTEN: "The Sportsman." "Great Men."
Professor F. W. KELSEY: "Some Recent Discoveries in Pompeii."
Professor PETER FRANDSEN: "Psychology." "Life of Louis Agassiz."
Regent W. W. BOOHER: "Some Phases of the Recent Election."
Professor LAURA DE LAGUNA: "In the Blue Room with Madame de Rambouillette."
Mrs. SLONAKER: "To Young People."
Captain CHARLES T. BOYD: "Some Characteristics of Abraham Lincoln."
Hon. SARDIS SUMMERFIELD: "The Memory of William McKinley."
Mr. HAROLD LOUDERBACK: "Talleyrand."
Miss EMILY BERRY: "The Exploitation of the East by the West."
Miss ANNA WOODWARD: "The Hague Peace Conference and the Russo-Japanese War."
Mr. JOHN W. WRIGHT: "Some European Opinions of American Institutions."
Lieutenant G. L. CARDEN: "Machinery Exhibit at the St. Louis Exposition."
Professor B. A. ETCHEVERRY: "The Engineer of To-day; his Work and Education."
Rabbi BERNARD KAPLAN: "Lincoln."

FACULTY AND INSTRUCTORS.

JOSEPH EDWARD STUBBS,
President of the University, Professor of Economics and Greek.
B.A., The Ohio Wesleyan University, 1873; M.A., 1876; Honorary D.D., German Wallace College, 1890; Instructor Greek and Latin, The Ohio Wesleyan University, 1872–75; Superintendent of Schools, Ashland, Ohio, 1880–1886; President Baldwin University, Ohio, 1886–94; President Ohio College Association, 1891–2; President Association of American Agricultural Colleges and Experiment Stations, 1899–1900.

HENRY THURTELL,
Dean of the Faculty, Professor of Mathematics and Mechanics.
B.Sc., Michigan Agricultural College, 1888.

ROBERT LEWERS,
Registrar, Professor of Political Economy and Principal of the Commercial School.

NATHANIEL ESTES WILSON,
Vice-Director of the Experiment Station, Professor of Chemistry and Dairying.
B.Sc., Maine State College, 1888; M.Sc., Maine State College, 1893.

THOMAS W. COWGILL,
Emeritus Professor of English Language and Literature.
B.A., Harvard University, 1883; M.A., Vanderbilt University, 1888.

RICHARD BROWN,
Superintendent of Buildings and Grounds.

JAMES EDWARD CHURCH, JR.,
Professor of the Latin Language and Literature.
B.A., The University of Michigan, 1892; Ph.D., The University of Munich, 1901.

LAURA DE LAGUNA,
Associate Professor of the Modern Languages.
B.A., Leland Stanford Junior University, 1894.

ANNA HENRIETTA MARTIN,
Lecturer in History of Art.
B.A., Nevada State University, 1894; B.A., Leland Stanford Junior University, 1896; M.A., Leland Stanford Junior University, 1897.

JENNIE ELIZABETH WIER,
Associate Professor of History.
B.D., Iowa State Normal School, 1893; B.A., Leland Stanford Junior University, 1901.

GEORGE FREDERICK BLESSING,
Professor of Mechanical Engineering.
B.M.E., Kentucky State College, 1897.

LYSANDER WILLIAM CUSHMAN,
Professor of the English Language and Literature.
B.A., Pierce Christian College, 1883; B.A., Harvard University, 1886; M.A., Drake University, 1899; Ph.D., Göttingen, 1900.

GEORGE DAVIS LOUDERBACK,
Professor of Geology and Mineralogy.
B.A., University of California, 1896; Ph.D., University of California, 1899. Absent on leave—Carnegie Fellowship in Geology.

PATRICK BEVERIDGE KENNEDY,
Professor of Botany and Horticulture.
B.S.A., University of Toronto, 1894; Ph.D., Cornell, 1899.

PETER FRANDSEN,
Professor of Zoölogy and Bacteriology.
B.A., Nevada State University, 1895; A.B., Harvard University, 1899; A.M., Harvard University, 1899.

GEORGE J. YOUNG,
Professor of Mining and Metallurgy.
B.S., University of California, 1899.

MILDRED MAUDE WHEELER,
Instructor in German and Mathematics.
B.A., Nevada State University, 1896; M.A., University of California, 1898.

SAMUEL BRADFORD DOTEN,
Assistant Professor in Mathematics and Entomology.
B.A., Nevada State University, 1898.

KATE BARDENWERPER,
Instructor in Domestic Arts and Science.
Armour Institute of Technology, 1900.

CHARLES T. BOYD,
Professor of Military Science and Tactics.
U. S. Military Academy, West Point, 1896; Captain, 10th Cavalry, U. S. Army; Major, 37th Infantry, U. S. Volunteers.

ROMANZO ADAMS,
Professor of Education and Sociology.
Ph.B., University of Michigan, 1897; Ph.M., University of Michigan, 1898.

GORDON H. TRUE,
Professor of Agriculture and Animal Husbandry.
B.S., University of Wisconsin, 1894.

BERNARD ALFRED ETCHEVERRY,
Associate Professor of Civil Engineering and Physics.
B.S., University of California, 1902.

JAMES GRAVES SCRUGHAM,
Assistant Professor of Mechanical Engineering.
B.M.E., Kentucky State College, 1900.

JOHN ALLEN REID,
Acting Professor of Geology and Mineralogy.
B.S., University of California, 1900.

IRVIN WILSON AYRES,
Librarian.
B.A., Nevada State University, 1901; M.A., University of Virginia, 1903.

FRANCES ELIZABETH SHORT,
Mistress of Manzanita Hall.
San José State Normal School, 1888; B.A., Stanford University, 1902.

MRS. ALICE L. LAYTON,
Instructor in Vocal Music.
Graduate New England Conservatory of Music.

CHAS. R. FITZMAURICE,
Assistant in Chemical Laboratory.

ALLEN C. STECKLE,
Gymnasium Director.
M.D., University of Michigan, 1901.

ELIZABETH S. STUBBS,
Office Secretary.
B.A., Nevada State University, 1899.

CAROLYN M. BECKWITH,
Assistant Office Secretary.

MRS. DELIA A. ELKINS,
In charge of the University Hospital.

FACULTY ORGANIZATION.

Chairman.....President of the University
Vice-Chairman.....Dean Henry Thurtell
Registrar.....Professor Robert Lewers

STANDING COMMITTEES OF THE FACULTY.

The individual members of the committee have no authority outside of committee.

The President of the University is *ex officio* a member of all Standing Committees.

I. On Student Affairs—Dean Thurtell, Professors Lewers, Wilson, Church, Young, and Superintendent Brown.

II. On Admission and Accrediting of Schools—Professors Church, Cushman, Wier, and Adams.

III. On Examination for Admission—Assistant Professors Doten, Scrugham, and Miss Wheeler.

IV. On Conditions and Reëxaminations—Professors Young, Kennedy, and Etcheverry.

V. On Debating and Literary Societies—Professors Cushman, Frandsen, and Librarian Ayres.

VI. On Athletics—Professors Wilson, Blessing, and Kennedy.

VII. On Theses and Courses of Study—Professors Louderback, Reid, and Etcheverry.

VIII. On Library—Professors Church, Wier, and Librarian Ayres.

IX. On University Publications—Professors Adams, True, and Librarian Ayres.

X. On Graduation and Honors—The Faculty.

XI. On Military Affairs—Captain Boyd.

XII. On Schedules—Professor Lewers.

XIII. In Charge of Buildings and Grounds—Superintendent Richard Brown.

XIV. On Group Electives—Professors Louderback, Frandsen, and de Laguna.

XV. On Manzanita Hall—Miss Short, Miss Bardenwerper.

XVI. On Lincoln Hall—Superintendent Brown, Professor True.

XVII. On Classification—The Faculty, as follows:

Dean Thurtell, Chairman.
Freshman L. A. and G. S., Sophomore L. A. and G. S.—Professor Church.
Junior and Senior L. A. and G. S.—Professors Louderback, Frandsen, and de Laguna.
All Students in Agriculture—Professor True.
All Normal Students—Professor Adams.
All Freshman Engineering—Assistant Professor Scrugham.
All Sophomore Engineering and Junior and Senior C. E.—Associate Professor Etcheverry.
All Junior and Senior Mines—Professor Young.
All Junior and Senior M. E.—Professor Blessing.
All Special Students—Professor Wilson.
All First High School—Miss Short.
All Second High School—Miss Bardenwerper.
All Third High School—Miss Wheeler.

ORGANIZATION, EQUIPMENT AND ADMINISTRATION.

FOUNDATION.

The Nevada State University is the head of the educational system of the State of Nevada. It is the only institution of university or college grade and equipment within the State. The Constitution of Nevada declares that "the Legislature shall encourage, by all suitable means, the promotion of intellectual, literary, scientific, mining, mechanical, agricultural and moral improvement," and shall provide for "the establishment of a State University which shall embrace departments for agriculture, mechanic arts and mining." The University was first located at Elko by a law approved March 7, 1873, but was removed to Reno by an Act of the Legislature approved March, 1885, and was formally reopened March 31, 1886. Only a preparatory school was maintained at Elko. The University proper begins with the academic year 1886–87.

The State Normal School was authorized by an Act of the Legislature, approved February 7, 1887, and was established and opened for students in September, 1887.

FUNDS.

The endowments and appropriation on which the University has been founded and maintained are the following:

1. Donation of 21.15 acres of land by the Central Pacific Railroad and erection of a building in 1873–74 by the citizens of Elko at a cost of more than eighteen thousand dollars.
2. Removed to Reno by an Act of the Legislature approved by the Governor March 7, 1885. The Board of County Commissioners of Washoe County paid to Elko County $20,000 and to the Board of Regents $5,000 to be expended in purchasing a site at Reno and beginning the construction of a building thereon.
3. The fund derived from the Congressional Land Grant of July 2, 1862, the interest of which is included in the biennial appropriation.
4. Various appropriations by the State Legislature for buildings and other specified purposes.
5. The biennial appropriation by the State Legislature for the support of the University.
6. The Agricultural Experiment Station Fund *for research only* of $15,000 a year.
7. The Morrill College Fund in support of the Agricultural and Mechanical College, yielding the present year the sum of $25,000.
8. The gift of the farm to the University by the citizens of Washoe County for the benefit of the Agricultural Experiment Station. This farm consists of 60 acres of good land near the University and 90 inches of water annually. It cost the county the sum of $12,000.

COLLEGES AND SCHOOLS.

The organization of the University comprises the following Colleges and Schools which aim to meet the best ideas and ideals of modern University life and training:

I. The College of Arts and Science:
   1. The School of Liberal Arts.
   2. The School of General Science.

II. The College of Agriculture:
   1. The School of Agriculture.
   2. The School of Domestic Arts and Science.

III. The College of Applied Science:
   1. The School of Mining Engineering.
   2. The School of Mechanical Engineering.
   3. The School of Civil Engineering.

IV. The State Normal School.

V. University High School.

ADVANTAGES OF SITUATION.

Reno, the seat of the University, is a thriving town of ten thousand inhabitants, situated in the beautiful Truckee valley, and at the junction of three railroads, namely, the Southern Pacific railway, a trunk line between the East and the West; the Virginia and Truckee railway, and the Nevada-California-Oregon railway. The noble mountains which encircle the valley, the pure air and soft sunshine give the town an enviable reputation for health and beauty. Excellent public schools, churches of all the leading denominations, both Catholic and Protestant, a moral and cultured community, offer here the proper conditions for the prosperity and development of university life and work. Furthermore, the proximity of Reno to the famous Comstock Lode and the other mines of western Nevada and eastern California enables the College of Mining Engineering to offer practical training and experience in mining operations on a vast scale such as can be offered by but few Schools of Mining Engineering in the United States.

BUILDINGS AND GROUNDS.

The University Campus has an area of from thirty-five to forty acres, and is beautifully located on an eminence overlooking the city. There are eleven buildings now in use.

MORRILL HALL.

Morrill Hall is a three-story brick building with a large basement. The offices of the President and administration of the University and the physical laboratory occupy the first floor, the library occupies the entire basement story, class rooms for ancient languages and history occupy the second floor, while the third floor is given to the use of the University Commercial School and the Drawing Department of the School of Mechanical Engineering.

STEWART HALL.

Stewart Hall is also a three-story and basement structure. The first floor is occupied by the professional and training department of the State Normal School and by class rooms for Modern Languages and Mathematics. Upon the second floor are lecture rooms for English and Mathematics, and the third floor is devoted to the School of Domestic Arts and Science. The basement is in use for the present as a dining hall.

HATCH STATION.

Hatch Station, formerly occupied by the Department of Mining and Metallurgy, has been set aside for the use of the Experiment Station, which is supported by the General Government for the purpose of original investigation in the various subjects related to scientific and practical agriculture. The first floor of Hatch Station is occupied by the Departments of Agriculture, Botany and Horticulture. The second floor is given to the Departments of Zoölogy and Bacteriology; and the third floor is occupied by the Departments of Entomology and Meteorology and by the Station Photographic Laboratory.

MINING BUILDING.

The first floor of the Mining Building is occupied by the Departments of Civil Engineering and Geology. The second floor contains one lecture room, the Metallurgical Laboratory and the Mineralogical Laboratory. The Assay Office occupies temporary quarters in another building.

MECHANICAL BUILDING.

Ths workshop is a brick building of superior design. The ground floor is applied to the use of the machine shop, the blacksmith shop, and the boiler room. The wood shop occupies the second floor, and is fitted up with one power jig saw, one band saw, one universal wood working machine, four wood lathes, one universal trimmer, one grindstone. There are twenty-four benches and an equal number of lockers. Each locker contains the following tools:

One rip saw, one crosscut saw, one hack saw, one bench saw, one set Bailey's planes, one set of chisels, one oil stone, one scratch awl, one steel square, one bevel, one two-foot rule, one pair of dividers, one hammer, one mallet, one marking gauge, one drawing knife, one set of awls, one set of screwdrivers, one nail set, two try squares and one broad hatchet. The tool room is provided with every needed variety of wood-working tools. The machine shop is furnished with one tool-room lathe, two screw-cutting lathes,

one polishing lathe, one shaper, one universal milling machine, one universal cutter grinder, five bench vises, one wet emery wheel, one dry emery wheel, one alternating current dynamo, one direct current dynamo, and a tool room equipped with small machine tools and certain experimental apparatus for the use of mechanical engineering students. The blacksmith shop has forges and the necessary tools.

CHEMISTRY BUILDING.

A commodious stone building, 90 feet by 45 feet, with a rear wing 50 feet by 20 feet, is the home of the Chemical Department both of the University and the Experiment Station. On the first floor is located the laboratory for qualitative analysis and general chemistry, accommodating sixty-five students; the laboratory for quantitative analysis, accommodating thirty-six students, together with the necessary stockrooms, balance rooms and laboratory for special work, are also on this floor. On the second floor is a lecture room, the Experiment Station Laboratory, a large stock room, a room for preparing apparatus for demonstration of experiments before classes, the office of the Chemical Department, and a suite of rooms which will be furnished for an organic laboratory. In the basement is a large acid and chemical room and the boiler room. The building is lighted by electricity.

LINCOLN HALL.

The State Legislature, recognizing the importance of placing the benefits of the University within the reach of all the deserving young men and women of the State, authorized the building of two Student Halls, after the plan of such halls in use by students of the larger Eastern colleges, and appropriated thirty-five thousand dollars for the purpose. The first of these two buildings is known as "Lincoln Hall," and is a tasteful and comfortable home for one hundred young men. The plans of Lincoln Hall were drawn after a careful study of the best modern college halls, and seem to meet every requirement of a cultivated taste.

MANZANITA HALL.

The second building, known as "Manzanita Hall," is a delightful home for young women. It is located upon the plaza in the southwest part of the Campus, and overlooks the town and the valley. The construction material is brick and granite. The architectural features are those of a commodious private dwelling. Besides the single and double rooms, which are sufficient for forty young women, there is a reading room and a parlor for the student and a private parlor and sitting room for the Mistress of Manzanita Hall.

THE GYMNASIUM.

The Gymnasium is a modern structure 60 feet wide and 120 feet long. It is equipped both as an armory for the use of the military department and as a gymnasium for athletic training. The equipment is modern and ample for all college purposes. Convenient toilet rooms with hot and cold water and lockers for the use of all students are provided, The gymnasium, on account of its convenience and size, is also used as an assembly hall for General Assembly and the more important University functions.

THE PRESIDENT'S HOUSE.

The home of the President is situated on the southeast corner of the Campus. It is colonial in the general style of its architecture and is a fine, commodious home, an ornament to the University as well as a suitable residence. It was built at a cost of $9,418.70. The ground on which the house is built was leased by the Regents of the University, but when the Legislature appropriates the money to pay for the cost of building, the house becomes the property of the University.

THE HOSPITAL.

Between the Gymnasium and Lincoln Hall is situated the University Hospital. This is a one-story brick building and contains six rooms. Entrance is from a southern portico into a reception hall, which is for the use of convalescents. There are four wards—two upon the west for young men and two upon the east for young women. There is a convenient kitchen where the food for the patients is prepared, This building was given by the Legislature of 1901, at a cost of $3,500. It has taken care of forty-four patients since its opening in September, 1902. Students are well cared for by a competent nurse and may have any physician which they or their parents prefer.

EVANS' FIELD.

The beauty and convenience of the Campus has in recent years been greatly enhanced through the leasing to the University by the late Regent Evans of a plot of ground adjoining the Campus on the north. This plot of ground, named Evans' Field in honor of the leaser, is a natural stadium, such as was used at the ancient Olympian games, and on account of its seats of turf could be made an ideal athletic field at a trifling expense.

LIBRARY AND LABORATORIES.

THE LIBRARY.

The Library contains about nine thousand bound volumes and, including those of the Experiment Station, six thousand five hundred pamphlets. The books have been selected with particular reference to the requirements of the several departments of study. The library is classified according to the Dewey Decimal Classification System, and is supplied with a very complete card catalogue. There is a complete and serviceable collection of the latest and best books of reference. The reading room is supplied with daily and weekly newspapers and with the best literary and scientific periodicals. Many of the papers are furnished to the University through the kindness of their publishers. The library is open from 8 o'clock in the morning until 5 in the afternoon on all days that the University is in session, and from 8 a. m. to 12 m. on Saturdays. A seminary room is being planned for students pursuing seminary and thesis work.

THE LABORATORIES.

The University aims to make its science work valuable by developing as far as possible well-equipped laboratories in each subject offered.

Quantitative Laboratory—Equipped with gas, water, fume closets, steam closets, steam evaporators, drying ovens, etc. In connection with this is a balance room containing six sets of balances, as well as a special laboratory for the analysis of water and for such determinations as cannot be made in the main laboratory.

Qualitative Laboratory—Will accommodate sixty-five students, each one being provided with a locker and drawer for keeping apparatus. The laboratory is completely fitted with water, gas and fume closets.

In the *Experiment Station Laboratory* those students who are interested in agricultural work have an opportunity to pursue this work according to the methods adopted by the Association of American Agricultural Chemists.

Biological Laboratory—This laboratory is used for the elementary courses in Botany and Zoölogy. They are equipped with dissecting tables, trays, sinks, compound microscopes, dissecting microscopes, microtomes, mounting material, chemicals, balances, etc.

The *Histological and Bacteriological Laboratories* are furnished with modern apparatus, such as incubators, steam sterilizers, hot-air sterilizers, serum inspissators, microscopes, etc. There are also the beginnings of an ornithological collection now being made by the Experiment Station, which will be used for illustrative purposes in the courses in Zoölogy.

Entomological Laboratory—This laboratory has been recently equipped for entomological research. It contains also the photographic laboratory of the Experiment Station.

The *Geological and Mineralogical Laboratory* has good collections of minerals, rocks, and fossils arranged for study. Courses are offered in the physical and blow-pipe determination of minerals, the determination of rocks and fossils by observational study, and the preparation of thin sections and microscopical study of rocks.

Assaying and Metallurgical Laboratories—These laboratories are at present occupying temporary quarters in the Mining and Mechanical Buildings.

Physical Laboratory—This laboratory is equipped with sufficient apparatus to permit a thorough course in High School, Freshman and Sophomore Physics.

SCIENTIFIC COLLECTIONS.

The Departments of Botany, Zoölogy, Entomology, Geology and Mineralogy are continually adding scientific material to their collections, but at present no suitable arrangements can be made for their proper disposal and exhibit, the room not being available. Three cases illustrating the minerals and rocks of Eastern and Western Nevada and

other mining States respectively are set up in the Mining Building. As soon as the opportunity offers the University expects to arrange and exhibit its collections so that they may be available to students and visitors.

AFFILIATED ORGANIZATIONS.

THE AGRICULTURAL EXPERIMENT STATION.

The Agricultural Experiment Station was organized in December, 1887, under the provisions of the "Hatch Act," approved March 2, 1887, whereby the General Government appropriated $15,000 annually for the support of an Agricultural Experiment Station in each State and Territory of the Union.

The primary object of the Station is the promotion of agriculture along scientific lines by conducting researches on the physiology of plants and animals; the diseases to which they are subject, with remedies for the same; the chemical composition of useful plants at different stages of growth; crop rotation; acclimatization of trees and plants; analysis of soils and waters; chemical composition of manures and fertilizers, with experiments to test their effects on crops; the composition and digestibility of foods for domestic animals; the production of beef, mutton, pork, milk, butter and cheese through improved strains and intelligent feeding; the proper use of water in irrigation; the reclamation of alkali lands and the prevention of the rise of alkali; entomology, especially in its economic relation to agriculture; in fact, the solving of all problems pertaining to agriculture which are or may be of importance to this State.

The results of the work of the Station are made public through quarterly bulletins and reports which are sent free to all residents of the State who desire them.

THE STATE MINING LABORATORY.

Under an Act passed by the State Legislature, March 16, 1895, citizens of the State of Nevada may send ores and minerals to the State University and have the same analyzed and assayed without cost. (Secs. 1402–1405, incl., Compiled Laws of Nevada.) The attention of the public is called to the fact that the law expressly states that only citizens of the State of Nevada may so send ores and minerals and that the same must have been taken "from within the boundaries of the State of Nevada." This provision is observed in so far as is practicable. Where persons are known not to be citizens, or the material comes from without the confines of the State, such material is not examined, but is held subject to the wishes of the sender.

The law further provides that the result of the analysis shall be sent to said citizen together "with as near as possible an explanation of their (ores and minerals) uses and value in market, and there shall be kept at the State University a book of record, open for inspection, under such rules as may be made by the Regents, of all minerals, ores or other matters sent, together with the history of such minerals and other matters, stating the name of the person or persons from whom received, the district and county from which it came and all other matters that may be beneficial touching the same."

In compliance with the above section reports have been rendered, and a record book kept. In order to make reports as accurate as possible, it is suggested that citizens supply all information, as indicated in the above extract, that may have any influence in determining the value of an ore or mineral. Lack of sufficient data necessitates almost always general statements concerning value.

In respect to the analytical and assaying work, the Department of Mining, which has been assigned this work by the President of the University, has adopted the following: Specimens and samples are first carefully examined, and, if a quantitative analysis is necessary to determine the value, the same is made. In all cases where the results of a preliminary examination are doubtful, a quantitative analysis is made. No quantitative work is done upon small hand specimens, unless for the purpose of identifying a mineral, as the results of such work are almost always misleading. Assays are made in duplicate and values determined. Reports are made as follows: Where the value of gold is above $5 per ton, "The gold assay value is above $5 per ton"; where the value is less than, but still in the neighborhood of, $5 per ton, "The gold assay value is less than $5 per ton"; where the gold exists in traces only, "Gold is present in traces only." A similar form of report is given in the case of silver and of combined gold and silver values. The State

law provides that returns for gold and silver above $5 per ton in value shall read, "Test for gold" or "Test for silver." As the meaning conveyed by these terms is not well understood, the foregoing form of report was adopted as fulfilling the intentions of the law and at the same time being more intelligible to the prospector or other person receiving the report. The accuracy of the quantitative work is of the same grade as that for rapid "commercial analyses," and is unchecked unless otherwise stated. Samples and specimens are examined in the order in which they are received.

Inasmuch as this work is subordinated to the work of instruction, returns upon samples and specimens are sent out sometimes after a considerable lapse of time. The Department endeavors to send out reports as soon as possible. The time varies from three to ten days after receipt of samples.

Wherever possible, citizens who avail themselves of the privileges afforded them by this Act should send in ample quantities of material, which facilitates the examination and gives more trustworthy results than are obtained from small specimens. Samples in addition to hand specimens should be sent for examination. All samples and hand specimens should be distinctly marked with name of consignee and wrapped separately, and a letter giving locality and other information should accompany them.

THE NEVADA ACADEMY OF SCIENCES.

The Nevada Academy of Sciences was organized November 24, 1903. For some time the members of the Faculty of the Nevada State University have felt the need of an organization which would at once bring together the results of scientific research now being carried on in the State, and act as an incentive to stimulate more such work in the future.

The objects of the Academy of Sciences may be grouped under two main heads: First—It is the aim to place all research work upon a firm, rational basis, and to act as the center point for all the individual workers. Second—The Academy hopes, by spreading throughout this State and others the important results of its labors, to benefit greatly the community and cause a greater and deeper popular interest in the sciences. The real significance of the scientific method is just beginning to have a true appreciation among the many branches of industry over the country, and nowhere does the welfare of any individual commonwealth need such realization as in Nevada.

At the present time, by reason of small membership, the Academy is divided into two working parts or sections. These are the Section of Social Sciences, and the Section of Natural and Applied Sciences. All lines of work are embraced by these two divisions. They meet on alternate weeks to review and discuss current scientific literature, results of research work and problems of particular value and interest to the State. When the importance of any work will warrant it, the Academy will publish its results in a series of bulletins for free distribution to all members and for sale to others desiring them.

The Social Science Section is at present busy with archeological data concerning the Indians in this part of the country. This Nation is finally beginning to realize the debt it owes to the civilized world regarding the original inhabitants of the continent, and much work is now being done which will perpetuate our knowledge of the habits, customs and religion of the North American Indians.

The Natural and Applied Science Section is busily engaged upon a question which is of vital importance to the State of Nevada. This is the great subject of forestry, and in particular, the relations of the forests to the control and conservation of the water supply. The Section plans to outline a careful system of measurements of rain and snowfall, run-off, loss by evaporation, and all other pertinent facts. The work will be done as far as possible in conjunction with the Bureau of Forestry of the United States Department of the Interior.

It is urged upon all interested in the welfare of Nevada that the Academy of Sciences is not of academic nature, but is founded upon the broader lines of State welfare. Therefore it is hoped that the citizens living within the confines of Nevada will take an active interest in the organization.

The membership of the Academy is composed of active and associate members. The active members comprise those who are actively engaged in research work in the State; associate members those who are interested in this work, but unable actively to follow it. The constitution also provides for patrons, who shall become such upon the pay-

ment of $50 to the Secretary. The money so obtained will be used to further the aims of the Academy.

The officers of the Academy are as follows: President, Professor Geo. J. Young; Vice-President, Miss Anna H. Martin; Secretary, Mr. R. L. Fulton; Treasurer, Professor Gordon H. True.

Of the Natural and Applied Science Section, Dr. P. Beveridge Kennedy is Chairman and Professor N. E. Wilson Secretary. Of the Social Science Section Dr. J. E. Church is Chairman and Professor Irvin W. Ayres Secretary. All communications should be addressed to the Secretary of the Academy.

STATE HISTORICAL ASSOCIATION.

To save much of the data concerning the early history of the State which must perish with the passing of the early pioneers if not speedily gathered and recorded, a movement has been started by the Department of History to organize the citizens of the State into a State Historical Association. While the immediate object of this association is the gathering and preserving of facts and relics bearing on the early history of the State, its ultimate purpose is to preserve and publish the records of the more recent development of the State as well.

UNIVERSITY EXTENSION LECTURES.

The numerous lectures given in various parts of the State during the past two years by the Departments of this University will be continued the present year by the President of the University, who is planning to visit the principal centers of population in Nevada and Eastern California during the month of April. The theme of his lectures will be the struggle of Japan to become a world power. These lectures will be based chiefly upon personal studies and observations made during a recent trip through Japan.

During the winter of 1904–5 a new course of lectures will be offered in Travel, Literature, History, Education and Science, while the Farmers' Institutes (by the Station Staff) will be continued as hitherto.

PUBLICATIONS.

In addition to the bulletins of the Experiment Station and of the Academy of Sciences which will appear from time to time, the University Bulletin has been established to keep the people of this State and the Universities of other States in closer touch with the University life and aims. This periodical is issued by the Committee on Publications once a month and may be procured at the nominal price of 25 cents a year.

THE ACADEMIC YEAR.

The Academic year of forty weeks begins about the 1st of September and closes about the 1st of June. This year is divided into two terms by the holiday vacation. Examinations are held at the close of each of the two terms.

THE FACULTY.

The Faculty consists of the President, the Dean, professors, associate professors, assistant professors and instructors. Its routine work is divided among the several standing committees. The Faculty also acts as an advisory body on any question of general policy that may be submitted to it by the President or the Regents.

GOVERNMENT OF THE STUDENTS.

In the government of the University the largest liberty consistent with good work, good order and good character is given the students. There is no formulated code of laws governing their conduct. Their habits of life are expected to be such as to promote daily cultivation of high moral character. They are expected in all their relations to each other and to the University to observe the usages of good society without requiring special regulations for that purpose. They are expected to be punctual and regular in their attendance upon all University exercises. The State provides its bounty for the earnest and industrious student. The indolent or the unworthy will not be retained in the University. Young men and young women who do not intend to give themselves up to the very highest demand of university life are advised to remain at home or go elsewhere.

AIDS TO MORAL AND RELIGIOUS CULTURE.

A Young Men's Christian Association and a Young Women's Christian Association have been organized among the students of the University, for religious and social improvement.

The churches of the town of Reno are cordially thrown open to the students, whose interests are largely consulted by the pastors in their pulpit instruction and in their plans of work. There are churches of the following communions in the city, each with flourishing organizations directed to the spiritual and social life of young people: Roman Catholic, Episcopal, Methodist, Adventist, Congregational, Baptist, Presbyterian, Salvation Army, and Volunteers of America.

All the restrictions placed upon the students in their University life rest upon the basis of a sound ethical culture.

FACILITIES FOR PHYSICAL TRAINING.

The University is provided with an excellent gymnasium, and a physical director has charge of the department of physical training and hygiene for young women and of athletics for both young men and young women.

A fine athletic field of six acres loaned to the University by Regent J. N. Evans, recently deceased, has been set apart and equipped especially for open-air sports. The Campus provides room for tennis courts, as well as for the military drill field. The policy of the University is to foster the spirit of honor and gentlemanliness in athletics, to suppress evil tendencies, and to see to it that athletic sports shall not encroach upon the claims of scholarship.

RULES GOVERNING STUDENTS PARTICIPATING IN ATHLETICS.

To represent Nevada State University in any public contest, a student must conform to the following rules:

SECTION I.

RULE 1. He must be an amateur.

RULE 2. If a candidate for a degree, he must attend regularly all the exercises of his class.

RULE 3. If a special student, he must give evidence of good faith regarding his intention to remain a full year in the University. He must also take courses amounting to not less than fifteen hours a week and attend regularly the exercises in such courses.

RULE 4. Like other students, he must maintain satisfactory standing in his class. A student who does not maintain a satisfactory standing in one school of the University cannot, by entering another, alter his status as regards these rules.

RULE 5. He must not receive any form of remuneration; that is, he must not receive any pecuniary benefit whatsoever from his connection with any athletic team.

RULE 6. He must pass a physical examination satisfactory to the Committee on Athletics.

SECTION II.

RULE 1. Schedules for all games must be submitted to the Committee on Athletic Sports and approved by them.

RULE 2. A similar approval is required in the case of every individual intending to represent Nevada State University in any single contest.

STUDENT ORGANIZATIONS AND PERIODICALS.

The students have established a series of organizations for their mutual physical, social, intellectual and spiritual development, such as the Athletic Association, fraternities, literary societies, the Dramatic Club, the Crucible Club for engineering students, a debating union, and a Young Women's Christian Association, while concert of action is obtained by the organization of the students as a whole into a Student Body.

The students also, under the leadership of the Independent Association, publish a semi-monthly magazine known as The Student Record, while each Senior class publishes an edition of the Senior annual known as the Artemisia.

MILITARY SCIENCE AND TACTICS.

1. Appreciation of the advantages of military drill and training in the education of youth is now well-nigh universal. The regular out-of-door drill constitutes one of the

best systems of physical training, while at the same time habits of obedience to lawful authority are instilled which assist materially in the development of good loyal citizens. A general knowledge of the system of national defense and of the organization of the Army and Navy and their relations to the civil power is considered essential to intelligent suffrage.

2. This department is in charge of an officer of the United States Army detailed by the War Department as Professor of Military Science and Tactics and who is also Commandant of Cadets.

INSTRUCTION.

3. Instruction in military subjects is both practical and theoretical, special prominence being given to the former.

ATTENDANCE.

4. All male students of the University, including those in the Preparatory, Commercial, and Special classes are required to receive instruction in this department. Those who are physically disqualified for drill may apply to the President to be excused from the practical course only. Every absence must be explained. An unauthorized absence is not only counted as an offense against discipline, but is marked 0. All absences whatever are subject to being made up by extra duty.

ORGANIZATION.

5. Students taking the practical course are designated cadets, and are organized into a battalion which is known as "The Battalion of Cadets of the Nevada State University." This battalion consists, for the present, of two companies and a band.

UNIFORM.

6. Cadets are required upon entrance to provide themselves with a uniform of prescribed design, consisting of coat, trousers, cap, white gloves, and black shoes, with appropriate insignia.

7. Cadets will wear the uniform during University hours when on the Campus, except when engaged in laboratory or shop work, in labor about the buildings and grounds, or in authorized athletic games. Outside the University grounds uniform or civilian clothing may be worn, but the wearing of composite costume is prohibited, except that a civilian overcoat may be worn over the uniform when the weather demands. A cadet will not dispose of his uniform until he severs his connection with the University. Neatness in dress and appearance is at all times insisted upon.

CADET OFFICERS.

8. Cadet officers will receive commissions from the Governor of the State. These commissions will entitle the Governor to their services in case of insurrection or rebellion. Cadet officers will be ranked after graduation as retired officers of the University Cadets, unless they choose to resign at the time of their graduation. The non-commissioned officers are appointed by the President of the University upon the recommendation of the Commandant.

9. The officers and non-commissioned officers are selected from those cadets who have been most studious, soldierlike in the performance of their duties, and most exemplary in their general deportment. In general the officers are taken from the Senior class; the sergeants from the Junior class; and the corporals from the Sophomore class.

10. Cadet officers when on duty as such will report all breaches of discipline coming under their notice to the Commandant.

11. No cadet shall in any way attempt to call to personal account another cadet for having, while in the execution of his office, corrected or reported said cadet.

DISCIPLINE.

12. Discipline is that quality which insures prompt, unhesitating, intelligent obedience to legitimate orders. It is an habitual state of mind which is essential to self-control, to the efficiency, health and comfort of troops, and to the proper care of government property. In order to command, one must learn to obey.

13. Military authority will be exercised at all times with firmness, kindness and justice; and superiors are forbidden to injure those under their authority by tyrannical or capricious conduct or by abusive language.

14. Courtesy among military men is indispensable to discipline.

15. Punishments must conform to law and follow offenses as promptly as justice will permit.

16. The punishments to which cadets are liable are:

(1) Reprimand, private, public, or in orders. Deprivation of privileges.

(2) Reduction to ranks of officers and non-commissioned officers. Suspension.

(3) Dismissal.

Punishments of the first class may be imposed by the Commandant; those of the second class by the Commandant with the approval of the President; those of the third class by the Committee on Student Affairs with the approval of the President.

17. The utmost care will be taken of the arms and other public property. Any cadet damaging same shall make good its value.

18. No cadet shall have in his possession at any time any kind of firearm or weapon other than that regularly used on duty.

19. All combinations against proper authority, under any pretext whatever are strictly prohibited. All deliberations or discussions having the object of conveying praise or censure or any mark of approbation or disapproval towards superiors are prohibited. Applications for redress or grievances, if made by individuals in a proper manner, will always receive due attention.

20. In general, conduct prejudicial to good order and military discipline is prohibited.

GENERAL ASSEMBLY.

A general assembly of all the students of the University and all the members of the Faculty is held every Friday. This is the lecture service of the week, and is under the special direction of the President of the University. These weekly lectures are given not only by the members of the Faculty, but also by men and women of special eminence in particular fields of study and travel and business enterprise.

WANTS OF THE UNIVERSITY.

The attention of the friends of higher education of the State of Nevada is respectfully called to the fact that the State University offers an opportunity for wise beneficence where the results will be large and early. It is a serious mistake not to regard the State University as a noble object for private benevolent endowment. Its work is the praise of those who are competent to pronounce upon its character, but yet its facilities must be greatly increased in order that it may fulfill its mission. Among its most pressing needs we mention the following:

1. A building and rooms devoted to mining and allied subjects, to cost $12,000.

At present the University has no suitable machinery or other equipment to illustrate the fundamental processes of mining and milling. Instruction is given by lectures, illustrated with diagrams and figures only. The desirability of having the students get familiar with handling the simpler forms of mining and milling machines is self-evident. The wish of the University to make its metallurgy work more practical is in line with the desire to strengthen its main departments instead of spreading over new fields. Such an appropriation would be used to accomplish two things: the outfitting of a suitable assaying laboratory, and the establishment of a metallurgical or ore testing laboratory.

It is proposed to house both laboratories in a single-story brick building which would be placed as a wing to the present mining building. The assaying laboratory would be equipped with gasoline, oil and coke furnaces, sample grinding machinery, and would have weighing, parting, pulp and locker rooms. The metallurgical or ore testing laboratory would have the following equipment: A dry crushing plant of appropriate capacity, a gold mill, ore-dressing and concentrating apparatus; amalgamating pans; a cyanide slimes plant with pressure filters, cyanide leaching vats, together with vats for other leaching processes; a lead-lined chlorination barrel; a small reverberatory roasting furnace and a small cupelling furnace, which is also to serve as a smelting furnace. Power would be supplied by a 15-horsepower induction motor, and would be transmitted by pulleys, shaftings and belts to the various machines. This laboratory is designed to furnish instruction to the students by placing in their hands the apparatus which is used in actual mining and milling works, and by familiarizing them with standard processes

carried out on a moderate scale, but it could also eventually serve as a State Mining Laboratory, where ores might be sent and working scale tests made, should such work be required by the mining interests of the State.

2. A library building, to cost with furnishings $25,000.

Among the needs of the Library is a library building. The present space allotted to the Library, the basement of Morrill Hall, is inadequate. New books are rapidly accumulating, and during the last two years seven new book-stacks have been required. It is difficult to see where any more stacks can be placed in the present stack room to meet the needs of the constant growth. Hence a new and larger abode for the Library is needed. Moreover, there should be a building especially designed and adapted to the needs of a library, prominent among which is a sufficient amount of light, which is not obtained in the basement. The book-stacks are necessarily large, and hence shut off the light from the windows, the Librarian frequently being obliged to use the light of a match in order to find a book. The new library building should provide for the admission of light from above, through skylights, which would insure the diffusion of a good light throughout the library. Another fact contributing to the need of a new building is the danger of fire in the present library. If the books were burned, some of them could not be replaced, and the others only at the cost of perhaps $15,000.

3. A natural history building and museum where the scientific collections of the University, now packed away in boxes, can be made available to students and to the public.

4. A geological laboratory and museum.

5. A dining-hall in more commodious and better ventilated quarters.

6. The purchase of the athletic field, now leased by the University.

7. Scholarships.

The friends of education, and particularly the friends of the University, are urged to consider the founding of scholarships. There are many unusually competent young men and young women in the State whose subsequent life would be made eminently useful to their generation by means of the discipline of a University course, but whose financial resources are inadequate to obtain it for them. This University is straining every nerve to provide for such cases, but its ability to do so is far less than the worthy demands made upon it. No means of perpetuating a helpful and elevating influence is at all comparable to that which provides a permanent fund, the proceeds of which shall be devoted to educating the young through the growing centuries.

8. Endowments.

An endowment of at least $2,000 a year to provide salary and necessary traveling expenses of a University Extension lecturer would result in greatly increased benefits to the more sparsely settled regions of the State, where those now engaged in extension work find it impossible to go.

THE TRI-DECENNIAL CELEBRATION OF THE UNIVERSITY.

On Wednesday, June 1, 1904, the Thirtieth Anniversary of the founding of the University will be celebrated. This anniversary, which occurs at the awakening of the State to renewed vigor, has been selected as a fitting milestone in the life of the University at which to pause for retrospect and prospect, to celebrate a quiet but active growth, and to plan for the greater service which lies before it.

The actual date occurs in the month of October, but it is thought that the celebration of the event at the regular Commencement will enhance interest on the part of the citizens of the State and the students of the University.

To give the occasion greater zest and attractiveness, it has been decided to make this Anniversary Day the central feature of the Commencement season of 1904.

ADMITTANCE, ATTENDANCE AND GRADUATION.

Admission to University Schools, and the Plan for Accrediting the Schools of the State.

EXAMINATION AND CREDENTIALS.

1. Entrance to all of the University schools shall be by examination, excepting that a graduate of an accredited school will be received without examination in those subjects in which such school is accredited. Any school in the State may be accredited in such subjects of high school grade as it may be able to complete in a satisfactory manner.

To obtain such credit, formal application should be made by the Principal to the Committee on the Accrediting of Schools, accompanied by a detailed statement of the work being done, including text-books, number and length of recitations, and number of weeks each subject is taught.

To such schools there will be sent in May of each year a set of five (5) questions on each subject. To these the teacher must add five (5) more, covering the work of the course. The examination papers should be graded by the teacher or Principal and then forwarded at once to the Committee. If possible such examination will be supplemented by visits on the part of the Committee. If the result of the examination is satisfactory, the school will receive the credit requested. Graduates of such accredited schools may, on the recommendation of their teacher, be admitted to the University in the subjects in which their school has been accredited, but in all other subjects an examination will be required.

High schools having but one teacher doing high school work, or doing partly grammar and partly high school work, are advised not to attempt more than the first year's work of the high school. Those pupils who have been prepared in all of the subjects of the first year will, as a rule, be able to continue their studies far more advantageously than if they are prepared in two or three years' work of any one or more subjects.

2. Candidates for admission who are not graduates of accredited schools must present themselves for examination in the common school subjects, and in such high school subjects as they may wish credit for.

3. High schools of other States, if accredited by a State University or other university of first rank, will be recognized in so far as the work done is equivalent to the work required here. The applicant from such a school must supply the evidence that the school is accredited.

4. All students entering the University must pass an examination in English composition, whether from an accredited school or not. This examination will be held in September of each year.

5. *Form of certificate by the teacher:* All papers of each pupil, note-books, drawings, etc., should be certified to in the following manner:

I do hereby certify that this is the work of..... of the..... High School.

Date:..... .....Principal or Teacher.

6. All new students of whatever rank should meet the Committee on Admission.

ADMISSION REQUIREMENTS.

Subjects and Units.

GROUP I.

English	15 units*
Mathematics—Algebra, Geometry	15 units
Latin	15 units
Physics	5 units
History	10 units

GROUP II.

English	15 units
Mathematics—Algebra, Geometry	15 units
German or French	10 units
Physics	5 units
History	10 units
Elective	5 units

GROUP III—ELECTIVES.

Latin	5 units
Physical Geography	2½ units
Chemistry	5 units
Botany	2½ or 5 units
Physiology	5 units
Zoölogy	5 units
Bookkeeping	2½ units

GROUP I admits to all schools.

GROUP II admits to all schools except the classical course.

GROUP III. From this group may be selected any subject or subjects for the five elective units in Group II.

*A unit, as a measure of the amount of work done, is one recitation of not less than thirty-five to forty minutes a week throughout one whole year. Fifteen units represent five daily recitations throughout three years; two and one-half units, a half year's work; ten units, two years' work.

ENGLISH (3 years).

I. LITERATURE.

JUNIOR YEAR.

*Gray's Elegy, *Deserted Village. } Allyn, Bacon & Co., 30 cents.
*Ancient Mariner. American Book Company, 20 cents.
*Byron (Selections). American Book Company, 25 cents.
*Ivanhoe. Ginn & Co., 60 cents.
*Silas Marner. Ginn & Co., 30 cents.
Alhambra. Ginn & Co., 45 cents.
Franklin's Autobiography. American Book Company, 35 cents.
Irving's Life of Washington, ed. by Fiske.

MIDDLE YEAR.

*Sir Roger de Coverley. American Book Company, 20 cents.
*Merchant of Venice. Heath & Co., 25 cents.
*Sir Launfal. Allyn, Bacon & Co., 30 cents.
*Wordsworth (Selections). American Book Company, 20 cents.
*Bunker Hill Orations. American Book Company, 20 cents.
Vicar of Wakefield. Ginn & Co., 30 cents.
Plutarch's Lives. Ginn & Co., 45 cents.
Iliad, I, VI, XXII, XXIV. American Book Company, 20 cents.
King Lear. Heath & Co., 25 cents.
Parkman's Oregon Trail.
Burns' Poems.
Tale of Two Cities.

SENIOR YEAR.

*Idylls of the King. American Book Company, 20 cents.

*Milton (L'Allegro, Il Penseroso, Comus). American Book Company, 20 cents.

*Julius Cæsar. Heath & Co., 25 cents.

*Emerson (American Scholar, Self-reliance, Compensation). American Book Company, 20 cents.

*Reply to Hayne. American Book Company, 20 cents.

Chaucer's Prologue, Knight's Tale. American Book Company, 20 cents.

Lowell's Democracy.

Paradise Lost, I, II. American Book Company, 30 cents.

Macbeth. Heath & Co., 25 cents.

Shelley (Selections). Ginn & Co., 80 cents.

Lamb's Essays.

Macaulay's Essay on Milton. American Book Company, 20 cents.

Macaulay's Essay on Addison. American Book Company, 20 cents.

Genesis, Ruth, Exodus, Esther.

Proverbs, Job, Psalms, St. John.

Old English Ballads (Otterburn, Chevy Chase, Robin Hood).

Note 1. The literature to be studied in the high school may be obtained, as above indicated, in separate bindings. This plan, on the whole, will be found to be more advantageous.

Note 2. In the lists given above, those pieces marked with a single asterisk are required; the others are optional and are to be used to complete the time required for the study of literature.

Note 3. Not less than three or four recitations per week during the entire high school course should be devoted to literature. One or two recitations per week throughout the course should be given to composition, word analysis and spelling.

Note 4. The order in which the pieces should be read is not prescribed. On the whole, the order in which the pieces are named in the lists is recommended.

Note 5. In the study of literature the purpose should be fourfold: an understanding of the thought of the writer; an appreciation of the beauty of the thought and expression; a study of the classics (especially prose) as models for composition, and, finally, a realization of the fact that every piece of literature is an interpretation of some phase of life.

II. WORD ANALYSIS.

Swinton's Word Analysis completed will be required of all who seek admission to the University. The examination will cover the entire book. Preferably this should be studied in the junior year of the high school.

III. COMPOSITION.

The written compositions of the pupils must accompany the examination papers. Questions on the general principles of composition will be asked. The pupil should be able to write legibly and neatly, to spell and punctuate correctly, and to express himself grammatically. The pupil should have very definite ideas of the sentence and of the paragraph as units of discourse, and should be able to coördinate his thoughts. Beware of long, loose, rambling sentences, made up, for the most part, of dependent clauses. Beware of omitting the verb. Beware of the too frequent use of "and." Beware of "sentence paragraphs."

Composition may well be correlated with literature and history. Topics of the day serve as good subjects. Trivial subjects should be avoided. Abstracts of lessons assigned, of articles read in the history, in the encyclopedia or in the magazines are in no sense of the word compositions. A mere reproduction of what has been read in books is not composition work and must be carefully guarded against.

High school debating should be regarded as real work in composition. Pupils who will and can debate should be given credit for it as a part of their work in composition.

A high school text-book on English composition should be in the hands of the pupils. There should be not less than one recitation or exercise a week in composition during the entire three years of the high school course. Those who can give only one year to the subject of composition should use Scott and Denney's Elementary English Composition.

IV. TECHNICAL GRAMMAR.

Technical grammar in the high school presupposes the completion of the grammar grade work. If attempted in the high school, it should be given in the Senior year five times a week throughout the year. Whitney's Essentials of English Grammar, or an equivalent book, will represent the amount and grade of work required.

MATHEMATICS.

I. ACADEMIC ALGEBRA (1½ years).

The requirements in academic algebra will include the following divisions of subjects:

Thorough drill in the fundamental processes of addition, subtraction, multiplication, and division. Equations of the first degree, simple and simultaneous, factoring, H. C. F. and L. C. M. Much oral work should be given, especially in factoring. The requirements will also include fractions, fractional equations, and powers and roots.

While the aim should be to give the pupils a thorough understanding of the principles of algebra, it is intended quite as much to give every pupil real skill in the daily use of algebraic symbols. This implies the working of a great many examples and thorough old-fashioned drill in every fundamental process.

II. PLANE GEOMETRY (1½ years).

The course in plane geometry should cover five books of Beman and Smith's Plane and Solid Geometry. The students must not be allowed to memorize the demonstrations, for the value of the study of geometry lies wholly in the fact that it trains the mind in habits of logical thought. The ideal purpose in teaching the subject should be this—to make the pupil reason in logical freedom without depending on text-book or teacher.

The test of this slowly developing power of logical thought is the degree of skill which the pupil shows in applying theorems already learned to the solution of unsolved exercises.

LATIN (3 years).

FIRST YEAR LATIN.

Collar and Daniell's First Latin Book, pp. 1–192, with exception of the Colloquia; Collar's New Gradatim, pp. 1–65, and D'Ooge's Colloquia Latina, pp. 1–31, the exercises in the latter to be read only at sight. The exercises for translation from English into Latin should be written by the pupil and corrected by the teacher. The Gradatim should be taken up immediately after the completion of Lessons I–X in the First Latin Book and used as long and as often as the pupil's progress will permit. It has been the experience in the University Preparatory School that an abundance of easy exercises for translation from Latin into English, such as the Gradatim and Colloquia Latina afford, is not only essential to the mastery of the First Latin Book, but will also make the study of Latin so much easier that but a slight addition of time will be necessary to do the extra work involved.

SECOND YEAR LATIN.

Greenough, D'Ooge, and Daniell's Second Year Latin, pp. 1–220, excepting The Story of Ulysses and exercises 22, 24, 27, 30, 33, 34, 35, in Part I, which, on account of their difficult style, may be omitted. The exercises in composition, except those based on the above exercises to be omitted, and the work in Latin grammar (Bennett's Latin Grammar is the most desirable) should not be neglected. The exercises in composition based on Part II, Cæsar, will be found in D'Ooge's Latin Composition Based on Selections from Cæsar. (Ginn & Co., Chicago.) The Colloquia Latina and the Gradatim will furnish abundant material for sight translation.

THIRD YEAR LATIN.

Kelsey's Selections from Ovid, followed by Gayley's Classic Myths. In place of all, or any part, of Ovid may be offered an equivalent amount of Cicero's Orations and Letters. The requirement in Gayley's Classic Myths will, however, be maintained.

Since the above course of study includes only the most interesting sections of Viri Romæ, Nepos, and Cæsar, while omitting much that is technical and void of general interest, its adoption is earnestly urged upon the schools of the State. Equivalent substitutions will, however, be allowed as formerly.

Thoroughness of preparation is especially desired and the work of "Second Year Latin" should not be taken up until all the requirements of "First Year Latin" have been fully met. Candidates for admission to the School of Liberal Arts who have completed "First Year Latin" may find it possible, providing all other entrance requirements have been fully met, to finish their University course in four years, but two and preferably three years' work in Latin, as outlined above, should be presented for admission to avoid the extra work involved in removing deficiencies.

GERMAN (2 years).

A thorough knowledge of the principles of German grammar must be acquired in the first year. This includes the conjunction of weak and strong verbs, and of the modal and time auxiliaries; the declension of nouns, pronouns, articles, and possessive pronouns; the three declensions of adjectives; rules as far as possible governing the gender of nouns, and the formation of plurals; the uses of the modal auxiliaries, of separable and inseparable verbs, and of the subjunctive.

Because of the numerous exceptions to the rules for gender and the formation of plurals, the student can master these perplexing subjects only by perpetual observation and practice. The ear should be trained as well as the eye. Therefore the repeated pronunciation of every word *with the article* and the plural should be insisted upon.

Collar's Shorter Eysenbach may be used at first, with Joynes-Meissner's Grammar later. The translation of easy German should come in the first year, as of Waldnovellen, Germelshausen, or some preparatory German reader.

For entrance into the University the second year's work should consist of reading and translation of the following texts or equivalents: Schiller's Maria Stuart, Modern Prose and Poetry.

The work in German composition should be continued through the second year. Harris' German Composition is recommended.

FRENCH (2 years).

Too much stress cannot be laid on the importance of a thorough and accurate knowledge of the fundamental principles of French Grammar. This involves: (1) The mastery of the three regular conjugations as well as of the irregular verbs, and the uses of the various auxiliaries; (2) Familiarity with the rules for forming the feminines of adjectives, the plurals of nouns and adjectives, and those governing the position of the adjective, of the object pronoun, of the negative, and of the adverb; (3) An understanding of the uses of the definite article (together with those cases where it is omitted), the classification of the pronouns and their inflections according to their several uses, the partitive constructions, the agreement of participles, and the various uses of the subjunctive. For elementary work the student may use Chardenal's Complete French Course; later Fraser and Squair's Grammar is recommended.

All the common idioms must be carefully studied. In so far as is possible, the construction should be made clear and the literal meaning should be given. The idioms should be committed to memory.

From the outset there should be work in translating from English into French. At first the exercises to be found in the grammar will be sufficient. After the first year, the available time must be spent largely on the translation of French into English.

The rules for French pronunciation should be acquired by the careful reading aloud each day of some passage from the French. The application of the rules to the word serving as an example will give a much better comprehension of the matter than if the rules were learned in the abstract.

When the student is sufficiently at home in the grammar, the translation of French texts must begin. For the first, selections from Rollins' or Super's French Reader are advised. In addition and as a preparation for entrance to the University or for advanced work there, the work must include the translation into English of the following texts or their equivalent: Le Voyage de M. Perrichon, by Labiche and Martin; About's Le Roi des Montagnes; Daudet's Le Petit Chose; de Banville's Gringoire; Meilhac and Halévy's L'Été de Saint Martin; Coppée's Le Luthier de Cremone; Le Trésor.

All translations must be accurate, and as literal as possible without sacrificing good English.

PHYSICS (1 year).

The requirements in physics represent at least a daily exercise during an entire school year, preferably during the last year of the high school course. It is required that the work done include all of the most essential parts of elementary physics, with all of the important laws from each of the main subdivisions, as properties of matter, mechanics of solids, liquids, gases, sound, heat, magnetism, electricity, light.

The teacher should perform in class as many experiments as possible to illustrate the essential principles, with thorough instruction in the lecture work, supplemented with laboratory exercises by the pupil, at least once, and preferably two or three times, a week.

Each student wishing to enter the University will submit a laboratory note-book, which will include all of the work performed by him in the laboratory; the note-books should be neat and all results carefully recorded, describing in each case the object of the experiment, the apparatus used, the observations and conclusions. The note-book will not be accepted unless signed by the teacher as evidence that all the work has been performed by the student.

Text-books recommended are: A Brief Course in Physics, by Hoadley (American Book Company), or High School Physics, by Carhart and Chute, or Andrews and Howland's Elements of Physics (Macmillan & Co).

The experiments performed in the laboratory should be quantitative. Hoadley's Physics is a good book in that it contains a large number of experiments, which can be performed with cheap instruments; the large number of experiments permits the teacher to select those which will suit his limited supply of instruments and also those best adapted to his class. As a minimum amount of laboratory work the following is suggested:

1. Determination of volume from dimensions.
2. Determination of volume by displacement.
3. Condition of equilibrium of three parallel forces.
4. Moments of two forces on a lever.
5. Equilibrium of three concurrent forces (or parallelogram of forces).
6. Effect of amplitude and material upon a period of a pendulum.
7. Effect of length upon period of pendulum.
8. Boyle's Law.
9. Specific gravity of a solid which will sink in water.
10. Specific gravity of a floating solid.
11. Specific gravity of a liquid.
12. Center of gravity.
13. Mechanical advantage of pulleys.
14. Expansion by heat.
15. Heat of vaporization of water. Dew point.
16. Specific heat of a solid.
17. Measure of the velocity of sound by a Resonance tube.
18. Number of vibrations of a fork.
19. Vibrations of stretched strings.
20. Images in a plane mirror.
21. Images in a concave mirror.
22. Images in a convex lens.
23. Index of refraction.
24. Photometry.
25. Magnetic field with iron filings.
26. Magnetic field with compass.
27. Magnetic field about an electric current.
28. Arrangements of cells for maximum current.
29. Measurements of resistance.
30. The electromotive force of cells.

Other experiments of general importance may be substituted or added. The above

list of experiments is suggested as covering the essentials of a good laboratory course requiring only inexpensive apparatus. It is, however, only a minimum course.

Valuable laboratory manuals, if the teacher prefers to use one, are Physical Laboratory Manual, by Coleman, Laboratory Manual of Physics, by Cheston, Dean, Timmerman.

HISTORY (2 years).

I. IN GENERAL.

For note-book work follow the pamphlet, *Instructions Regarding the History of Note-Book and Entrance Requirements*, which may be obtained at the University office for twenty-five cents per copy. Teachers are advised to follow the spirit rather than the letter of these instructions, selecting such kinds of work as are adapted to the needs and ability of each class. It is recommended that the student as well as the teacher have a copy of the pamphlet for constant reference. The note-book will be required as a part of the entrance requirement next September. If necessary some note-book work may be substituted for a portion of the text-book work.

II. IN DETAIL.

1. *English History.* Aim to teach the important epochs such as the Anglo-Saxon Conquest, the Norman Conquest, the Struggle for the Great Charter, the Great Social Awakening commencing with 1297, the Reign of Elizabeth, etc. The main purpose of the course is to prepare for an intelligent study of English literature, therefore constant reference should be made to the literary development of the English people.

The following partial list of reference books is recommended:

a. Bates and Coman: English History Told by English Poets.

b. Larned, J. N.: A History of England for the Use of Schools and Academies. Houghton, Mifflin & Co., Boston, 1900. (Used this year as a text in the University High School.)

c. Terry, Benjamin: A History of England for Schools. Scott, Foresman & Co., Chicago, 1903. (See excellent outline of English History given in table of contents.) $2.

d. Green, J. R.: A Short History of the English People. Harper & Brothers, New York, 1888. American Book Company. $1.20.

e. Gardiner, S. R.: A Student's History of England; 3 vols. Longmans, Green & Co., New York, 1895. $3.

f. Traill, H. D.: Social England; 6 vols. G. P. Putnam's Sons, New York, 1898. $3.50 per volume.

g. Cunningham, W., and McArthur, E. A.: Outlines of English Industrial History. University Press, Cambridge, 1898. $1.50.

2. *Ancient History* should be treated in three parts: The Beginnings of Civilization, or the early Oriental Theocracies; Greece and Macedonia; Rome to the time of Charlemagne.

a. The Beginnings of Civilization: Beginning with a discussion of the nature and origin of civilization, trace the struggle for civilization through the early Oriental monarchies: Egypt, the Tigro-Euphrates Valley, Judea, Phœnicia, and Persia. India, China, and the Aztec life of North America may also be treated if time permits. Seek to develop in the minds of the pupils a clear understanding of the general characteristics of Oriental civilization as opposed to those of European life.

b. Greece and Macedonia: Trace the development of political, religious, social, economic, and educational ideas; emphasize difference in development of Athens and Sparta and the reasons for the leadership of Athens after the Persian Wars; show causes for decline of Greece and the rise of Macedonia, and give some little attention to the great Hellenic world after Alexander down to the time when it became a Roman province.

c. Rome to the time of Charlemagne: Follow same plan of development as in "*b.*" Pay little attention to military history and to individual reigns. Emphasize the growth of institutions.

Recommended Texts.

1. West, Willis Mason: Ancient History. Allyn & Bacon, Boston, 1902.

2. Wolfson, Arthur Mayer: Essentials of Ancient History. American Book Company, New York, 1902.

Recommended Reference Books.

1. Buckle, Henry Thomas: History of Civilization in England. 3 vols. Longmans, Green & Co., London, 1885. (Especially vol. I, ch. II.)

2. Rawlinson, George: Ancient Monarchies. 5 vols. Dodd, Mead & Co., New York. $6.25.

3. Curtius, Ernst: History of Greece. 5 vols. Chas. Scribner's Sons, New York, 1892. $1.

4. Grote, George: History of Greece. 12 vols. Harper & Brothers, New York. $17.50.

5. Mahaffy, J. P.: Problems in Greek History. Macmillan & Co., New York, 1892. $2.50.

6. Mommsen, Theodor: History of Rome. 3 vols. Chas. Scribner's Sons, New York, 1891. $10.

7. Mommsen, Theodor: History of the Roman Republic. Abridged edition. Chas. Scribner's Sons, New York, 1899. $1.75.

8. Smith, Wm.: A Dictionary of Greek and Roman Antiquities. 2 vols., 3d ed. John Murray, London, 1890.

3. *American History and Civics.* As the University offers no course in the early period of American History it is recommended that emphasis be placed upon the Discovery, Exploration, and Colonization Periods, and that Fiske's series be used to supplement the text. Teach civics in connection with history: local government of township and county in the colonies; National government commencing with the Constitutional Convention of 1787, showing the development from the Confederation.

For reference works see the recommended list in the History Pamphlet.

NOTE: It will be possible to furnish to teachers a very limited number of copies of typewritten outlines on ancient history, containing specific references. Applications for the same should be made to Miss Wier.

PHYSIOLOGY (1 year).

Five hours a week throughout the year should be given to this subject, of which two hours should be devoted to laboratory work. A microscope and prepared slides of human or animal tissues are a necessity. Martin's Human Body (Briefer Course), Hewes' High School Physiology, or Macy and Norris' Physiology for High Schools, are recommended as texts. The text-book should be supplemented by assigned readings or lectures or both on matters pertaining more particularly to hygiene. Pyle's Personal Hygiene and Abbott on Hygiene of Transmissible Diseases are recommended as such supplementary texts. The laboratory work should follow the outlines given in the text, and all drawings and notes should be submitted to the Department of Physiology at the time of entrance.

SAMPLE EXAMINATION QUESTIONS.

1. Describe the structure and activities of a typical cell. Why is a clear understanding of cell life essential to our understanding of the physiology of the human body?

2. Draw a diagram of some joint with the bones and muscles in position and explain clearly the mechanism of each part.

3. Explain fully what is meant by salivary, gastric and intestinal digestion. What is meant by osmosis or dialysis, and what relation does it bear to the absorption of food through the walls of the digestive tube?

4. Describe the action of the valves of the heart. What is hæmoglobin and what is its use? Why is there a portal circulation?

5. Describe the mechanics of thoracic and abdominal respiration, and illustrate by diagrams. How does a gland like the sweat gland secrete and excrete?

6. Name the principal subdivisions of the brain and give the functions of each. How do we know that a particular region of the brain has a particular function? Illustrate by diagrams of nerve cells and nerve fibers the difference between a reflex and voluntary act.

7. Show clearly how the eye accommodates itself for near and far vision. Give the bearing of this upon near and far-sightedness and the hygiene of glasses.

8. Why should food be thoroughly chewed? Why should meals be regular? What is the proper kind of a seat for a young child, and why? Why does carrying books under one arm by a school child tend to deformity? Give three reasons why mouth breathing is bad.

9. Explain fully why reading while lying down is bad. Why is exercise in the open air best? Why should it be systematic? Why should we not read while eating? Why should the hair be shampooed and the body bathed from a purely physiological standpoint? Why do we catch cold, and how?

10. Name some contagious diseases? What are bacteria? Where are they found? How do they become scattered? How do they gain an entrance to the body? How do disease germs cause disease? How does the body resist disease? What is meant by disinfection? Name three good disinfectants and describe the mode of application. Why should a consumptive not be allowed to expectorate on the street? In how many and what ways may typhoid fever be spread? What general steps should be taken to stamp out an infectious disease like anthrax among cattle, and why?

ZOÖLOGY (1 year).

Five hours a week for a whole year should be given to this subject. Of these five hours, three should be devoted to laboratory work, and the other two to lectures and recitations. The laboratory work should be of such a nature as that outlined in Davenport's Introduction to Zoölogy (The Macmillan Company, New York), or Merril's Studies in Zoölogy (American Book Company, San Francisco). All notes and drawings should be submitted to the Department of Zoölogy at the time of entrance.

SAMPLE EXAMINATION QUESTIONS.

1. Name all the branches (phyla) of the animal kingdom. Give a brief characterization of each and name a common example.

2. Describe in detail the method of locomotion of the earthworm, and mention three other locomotion types.

3. How does the hydra capture and swallow its food? Mention three devices in other groups of animals for obtaining food.

4. Describe in detail the changes which take place in the frog's egg (or that of some other animal) up to and through the tadpole stages to the adult.

5. Give a detailed account of the frog's breathing. In what respects is it like, and how does it differ from, the process in the fish, the fresh-water snail, the earthworm and the butterfly?

6. What produces the lines of growth in the snail's shell? How many appendages has the cabbage caterpillar, and how do they differ from each other? Is the caterpillar a worm? Why?

7. Give instances from your own observation of protective resemblance. What is meant by adaptation? Name the kinds of adaptation, and give instances.

8. Give instances of instinct. If possible, give some example of animal intelligence which has come under your observation, and discuss it.

9. Make a list of the animals in your neighborhood with remarks as to eyes, ears and feelers; number, position, keenness.

10. What is meant by evolution, natural selection, struggle for existence, variation, and heredity?

11. Which animals in your neighborhood are useful and which are harmful to man's interests?

CHEMISTRY (1 year).

The elements of chemistry as contained in Williams' Elements of Chemistry, or Dennis and Clarke (these two books filling the requirements better than any other now on the market), should be completed. Aside from this the pupil should have prepared the experiments as given in Williams' Manual or Dennis and Clarke's Manual. Notes should be carefully kept and submitted to the Professor of Chemistry at the time of application for admission.

Special attention should be given to fundamental principles, such as chemical and physical changes, atoms, molecules, laws of combination, valence, formulæ, and reactions, compounds, etc.

BOTANY (½ or 1 year).

Two and one-half credits will be allowed to any high-school student who has an intelligent knowledge of Andrews' Botany All the Year Round, from page 1 to 233. (American Book Company.) $1.

For five credits the entire book should be covered and a laboratory note-book of carefully executed drawings presented. The student will also be required to have read at least two of the references given for each chapter in the Appendix on pp. 289 to 293.

PHYSICAL GEOGRAPHY (½ year).

GENERAL REMARKS.

Two main view points in presenting the subject:

1. Relation of earth to man—the study of man's environment of physical nature.
2. Earth viewed as a living, growing organism—this idea furnishes the unity binding together all the study of earth forms and processes.

In the study of the subject, the first view point, namely, that we are studying about things vitally affecting mankind, is of far greater importance; the second view point is necessary for the thread of unity throughout, but of less ultimate importance.

For a half-year or term course the following brief outline is given:

1. Study of the earth as a unit.
   a. In relation to other worlds and suns (the earth's sociology).
   b. The form, size, and shape of the earth (the earth's morphology).

But little time need be given for this part of the subject, the most general facts only being needed in a high school course. Most important is earth's movements under "*a.*"

2. General features of the earth. (The earth's organography, or anatomy.)
   a. The atmosphere, embracing the nature and extent of air, its effect in winds and storms, with full reasons governing. Also dew, frost, rainfall, etc.
   b. The ocean. Forms and extent; uses, composition, density, temperatures, etc. Icebergs. Ocean shores and bottoms, nature of each and forms, continental shelves. Waves, nature, size, etc., causes. Currents, nature, causes and positions, temperature resulting from. Tides, nature, causes, results. Size of ocean, distribution, causes, etc. Peculiarities of mediterranean seas.

Climate need not be taken up as a distinct chapter, but should be discussed under each separate topic; at the same time correlation with mankind should be made. In other words, climate and man furnish one of the connecting threads between the separate topics, the other being that of earth change and growth.

   c. The land. Forms and extent of the land. The physiographic features of the earth, entering into causes of each. Mountains, plains, volcanoes, etc. Life on land. Plant and animal, distribution of each and bearing of climate on this, and the result to mankind.

3. Waste of land by earth agencies (earth physiology).
   a. Rivers and ocean. The circulation of water, the earth's life fluid. The results of this ceaseless action.
   b. Ice, as glaciers and icebergs.
   c. Contest between water and land, forms resulting from, costal plains, ocean beaches, etc.
4. Uplifting of land *versus* oceanic action of leveling; nature of mountains, volcanoes, plateaus, etc. Secondary volcanic phenomena, geysers, hot springs, etc.

Again, let emphasis be laid on the two threads of unity throughout; relation of all to man; and relation of each earth change to earth growth.

Books recommended in order of value: (1) Davis; (2) Dryer; (3) Tarr.

BOOKKEEPING (½ year).

The bookkeeping required for admission to the University corresponds in amount and character of work to that outlined in the Sadler-Rowe budgets 101 and 102 up to March 15th. This includes simple double-entry books, the making of balance sheets, the use of invoice, sales and cash books, etc., and should include thorough understanding of checks, notes, drafts, billing, and, generally, all of the papers used in modern business.

ADMISSION OF SPECIAL STUDENTS.

Persons who are not candidates for a degree, and who wish to pursue some one study and its related branches, may be admitted as special students without passing the usual entrance examination on the recommendation of the professor under whom the special studies are to be taken; but the professor concerned may impose any test by examination or otherwise that he may deem advisable. Special students are admitted to work only in the University courses. A failure on the part of any special student to maintain a good standing in the special studies to which he is admitted will at once sever his connection with the University.

ADMISSION TO ADVANCED STANDING.

Advanced standing will be granted by the Committee on Admission only upon recommendation of the departments concerned.

EXPENSES OF STUDENTS.

TRAVELING EXPENSES.

The railways of the State are generously coöperating with the Regents of the University by giving reduced rates to students when traveling to and from their homes and the University. The Southern Pacific Company, the Virginia and Truckee, the Nevada Central and the Eureka and Palisade railways will sell tickets to students at one-half the usual local rate. To obtain the benefit of the half rates the student must accompany his application for a ticket with a certificate from the President of the University. These certificates may be obtained by writing to the "President of the State University, Reno, Nevada." Students coming to the University from points outside the State must pay full fare to the State line.

TEXT BOOKS.

All the text books used in the University may be purchased at the Registrar's office at a price which covers the actual cost of purchasing and keeping these books. No credit will be given purchasers of books.

LABORATORY FEES.

To maintain its large and valuable laboratories is a constant and heavy expense to the University. It is impossible for the Regents to provide material in these laboratories free of all expense to the students. For this reason the Regents have established a moderate charge for the use of the material actually used by the student as follows:

For General Chemistry, per term	$2.50
For Qualitative Chemistry, per term	2.50
For Quantitative Chemistry, per term	2.50
For Agricultural Chemistry, per term	2.50
For Mineralogy, per term	2.50
For Junior Assaying, first term	5.00
For Junior Assaying, second term	7.50
For Senior Metallurgy, per term	10.00
For Typewriting, per term	1.00
For Zoölogy, Botany and Bacteriology, one-half course	1.00
One full course	2.00
Two or more courses	2.50
For Sewing, per term	1.00
For Cooking, per term	1.00

DEPOSIT FOR BREAKAGE OR DAMAGE.

The following deposit fees will be required of students in the department to which the subject belongs, but will be returned at the end of the year to the student less the amount of breakage or damage of material given to the student. The general guarantee fund is applied to necessary incidental repairs about the grounds and buildings, and no part of this fee will be returned:

Practical Mechanics, per term	$3.00
General Chemistry, per term	2.00
Quantitative Chemistry, per term	5.00
Qualitative Chemistry, per term	5.00
Agricultural Chemistry, per term	5.00
General Guarantee Fund, per term	.50

EXPENSES OF LIVING.

MANZANITA HALL is the University home for young women. Miss Frances E. Short, a lady of large experience and wisdom, is Mistress of Manzanita Hall. In regard to ventilation, heating, light and the furnishing of the rooms, all the equipment and arrangements are of the very best kind for the health and comfort and culture of the occupants. Young ladies coming to Manzanita Hall should provide themselves with the following articles:

Four white table napkins; 4 sheets, 2¼ yards by 1½ yards; 4 pillow cases, 20 inches by 30 inches; 2 white bed spreads, same size as sheets; 1 pair of blankets; 1 comfort, same size as sheets; 1 comfort, extra thickness, 3 feet by 6, to put on mattress; 6 good towels; 2 aprons for work in shop and in laboratory; personal toilet articles, such as soap, sponges, comb, brushes. All articles of room equipment and personal wearing apparel should be plainly marked with the name of the person.

No special charge is made in the way of room rent to the young ladies.

LINCOLN HALL is the college home for young men. The fine building has accommodations for one hundred young men, and is equal to the best of modern college halls for young men. The head master of Lincoln Hall is Mr. Richard Brown. Young men coming to Lincoln Hall should provide themselves with the following articles:

Four white table napkins; 4 sheets 2¼ yards by 1½ yards; 4 pillow slips, 20 by 30 inches, 2 white bed spreads, same size as sheets; 1 pair blankets; 1 comfort, same size as sheets; 1 comfort, extra thickness, 3 feet by 6, to put on mattress; 6 good towels; personal toilet articles, such as soap, sponges, comb, brushes. All articles of room equipment and personal wearing apparel should be plainly marked with the name of the person.

No special charge is made to the young men for room rent in Lincoln Hall.

Rooms in private houses can be rented for $8 to $10 per month.

TABLE BOARD—For the accommodation of the students, the President of the University has maintained for several years a dining hall in the basement story of the University building known as Stewart Hall. During the past summer the dining hall equipment and service has been reorganized with a view to securing board and table service of the most acceptable character. The price of table board for the coming year will be $16 a month, payable in advance. If the board is not paid until after the fifteenth of the month an additional charge will be made of twenty-five cents a day until the account is settled. If the board bill is not paid by the last day of the month, the privileges of the dining-hall will be denied until the bill has been paid. *No deviation will be made from the above regulations.* After the expenses of the dining-hall have been fully met, any surplus is paid over to the Board of Regents to pay for service rendered in maintaining Manzanita Hall and Lincoln Hall.

Table board can be obtained elsewhere at from $20 to $25 per month.

AID TO STUDENTS.

It is the purpose of the officers of the University to aid meritorious students of limited means so far as it lies in their power. Almost all of the work in and about the University buildings and grounds is now done by students. The skill that the young men acquire in the carpenter and machine shop enables them to do most of the repairing and building required on the grounds. Young women are favored whenever possible with such work as typewriting, copying and housework. It is to be remembered that the power to favor students with self help is limited by circumstances, and *therefore students cannot expect to earn enough to pay all their expenses while pursuing their studies.*

PROMOTION.

MAXIMUM LIMIT OF HOURS.

In general, students are recommended to follow the regular course of study as nearly as possible, taking each year the number of hours prescribed for that year. Students may, however, for the year 1904–5, at their discretion, elect courses aggregating three hours in excess of the prescribed number, exclusive of military drill and physical culture.

ATTENDANCE UPON RECITATIONS AND LECTURES.

The requirements for punctual and regular attendance upon all recitations, lectures and other prescribed college exercises are exact and firm. Professors may excuse stu-

dents on account of necessary absence from their classes, if the reasons seem valid. All unexcused absences are reported to the President's office and may subject the student to admonition, suspension or dismission. Students who find it necessary to leave before the close of the year and who expect to return, and students desiring to be absent for a period of time, should obtain leave of absence from the President.

FINAL GRADES.

Each instructor shall determine the final grade of students by any method that he may consider best adapted to his courses.

CONDITIONS.

1. Any student who, in any course, receives a final grade of less than 70, and over 50, shall be passed conditionally.

2. Any student thus conditioned may remove such condition by taking a reëxamination of such nature as the instructor may prescribe, in which he shall receive a grade of not less than 70.

3. One and only one reëxamination may be given for the removal of any one condition.

4. This examination may be taken at the option of the student either at the beginning of the semester next succeeding the one in which the condition shall have been given, or at the beginning of the next succeeding semester. The regular time for such reëxaminations shall be the first week of each semester.

5. Any condition which is not removed by the end of the first week of the second succeeding semester shall become a failure and be governed by rules for failures.

6. Entrance conditions must be removed within one year from the date of entrance.

FAILURES.

1. Any student who receives a final grade of 50 or less shall be considered as having failed in such course. Any student who passes conditionally in any course and fails to remove the condition within the prescribed time shall be considered as having failed.

2. Any student who shall have failed in any course shall be required to repeat the course regularly in the next succeeding class, unless the Faculty shall by vote permit an extension of time or the substitution of another course.

3. Any student who has failures aggregating over eight units in any one semester shall be thereby debarred from further privileges in the University, unless the Faculty by vote remove such disability.

REQUIREMENTS FOR A DEGREE IN THE COLLEGE OF ARTS AND SCIENCES.

The Degree of Bachelor of Arts is conferred upon students in the School of Liberal Arts, and the Degree of Bachelor of Science upon students in the School of General Science who have satisfactorily completed work aggregating 124 units credits. By an hour, or a unit credit, is meant the equivalent of work demanded by a lecture course meeting for one hour a week for one semester, or a laboratory course requiring two and one-half hours a week for one semester. The work of the first two years is in the main prescribed; that of the last two years is wholly elective, subject, however, to the rules of group and free electives. Students in the General Science course are required to take seven extra hours of Natural Science, as an equivalent of the Latin prescribed for students in the School of Liberal Arts. The work of the Freshman and Sophomore years is prescribed as follows:

Classical Course.		FRESHMAN YEAR.	*Science Course.*	
English	2		English	2
Latin	4		French, Greek or German (E)	4
Mathematics	3		Mathematics	3
Physics	2		Physics	4
French, Greek or German (E)	4		Chemistry	2
Public Speaking	1		Public Speaking	1
Drill or Physical Culture	1		Drill or Physical Culture	1
		SOPHOMORE YEAR.		
English	3		English	3
Latin	3		French, Greek or German (E)	3
History	3		History	3
Natural Science	4		Natural Science	7
French, Greek or German (E)	3		Drill or Physical Culture	1
Drill or Physical Culture	1			

Classical Course.	JUNIOR YEAR.	*Science Course.*
Drill or Physical Culture.....1		Drill or Physical Culture.....1

While the student should as nearly as possible follow the outline of hours and subjects as here prescribed, he may, with the sanction of his adviser, defer some of his prescribed work until the Junior or Senior year.

The Natural Science prescribed for the Sophomore year shall be elected from the following courses:

Chemistry 1, Physics 2 and 3, Geology 1, 2, 3, 6, Zoölogy 1, 5, 8, 10, and Botany 1. More advanced courses may be elected if the student has had the prerequisites. Students in the School of Liberal Arts intending to take a major in some science department in their Junior and Senior years should elect an elementary course in that department in the Sophomore year. Some of the above-named courses give less than the four units credits required, but the deficiency may be satisfied by the election of additional hours either in the group or free electives.

JUNIOR AND SENIOR YEARS.

Provided all the work of the Freshman and Sophomore years has been completed as prescribed, courses aggregating 60 units credits, or an average of 15 units in each semester, should be completed during the Junior and Senior years. Of these 60 units, 40 must be chosen within certain correlated groups and with the advice and consent of the major, or major and minor departments concerned. The remaining 20 units may be freely elected from any course offered in the College of Arts and Sciences, provided that the requirements of the departments in which the work is elected are satisfied.

GROUP ELECTIVES.

Each student in the College of Arts and Science shall, at the beginning of his Junior year, elect a department in which he wishes to do a considerable amount of work as his major department. In case any student so choose he may elect a minor department also. If a student elects a major and not a minor department, he shall be required to elect forty hours work in the two years with the advice and approval of the head of his major department. The work of the major department shall be the correlating subject of the forty hours group electives. In case a student elects both a major and a minor department, the combined work of the two departments must represent a unity of aim, and the heads of the two departments shall constitute an advisory committee, of which the major professor shall be chairman. In this case, the elective group of forty hours must be selected with the advice and approval of the advisory committee.

Students in the School of Liberal Arts may select a major, or a major and minor, from any of the following departments: Greek, Latin, French, German, English, Spanish, History, Law, Economics, Sociology, Education, Zoölogy, Botany, Geology, Chemistry, Physics, Mathematics.

Students in the School of General Science may select a major, or major and minor, from any of the following departments: Zoölogy, Botany, Geology, Chemistry, Physics, Mathematics, Education.

The particular grouping will depend on the particular aim of the student. The following correlated groupings will serve as a general guide:

1	2
Language—Literature Group.	*Social Science Group.*
Greek, Latin, French, German, English.	History, Law, Economics, Sociology.
3	4
Biological Science Group.	*Physical Science Group.*
Zoölogy, Botany, Chemistry, Geology.	Chemistry, Physics, Mathematics, Geology.

The student electing a major in any one of the foregoing groups will be expected in the main to select his correlated work within that group. Good correlations, however, may sometimes be made by choosing from two groups. For example, a student making some one language his major may find it desirable to also elect a considerable amount of History. A student planning to study medicine should elect a major from Group 3, but may find it desirable to take more work in Physics. Those intending to study law should elect a major in Group 2, but may find it desirable to take advanced work in

English. In some cases it may be necessary also to utilize some of the free electives in courses correlated with the group. For example, students taking a science major will often find it profitable to have a good reading knowledge of both French and German. As an instance of uncorrelated grouping the following is given: Latin (major), History, Sociology, Chemistry.

Any student, after electing his major and minor departments, may, with the consent of the department concerned and with the consent of the Committee on Group Electives and Graduation Schedules, change his course, choosing another major department or major and minor departments, as the case may be, provided he comply with all the conditions in the case of the new major and minor departments.

Each student shall make a written statement of the work he has accomplished during the Freshman aud Sophomore years and of the work he proposes to do under the direction of his major or major and minor professors during his Junior and Senior years. He shall also make a statement of the coördinating aim which gives unity to the proposed group. This statement shall be placed in the hands of the Committee on Group Electives and Graduation Schedules not later than the first week of the University year.

It shall be the duty of the Committee on Group Electives and Graduation Schedules to examine these statements carefully, and, if needs be, to interview the students presenting them and to determine whether such schedules conform to the rules governing the same. If they do thus conform they shall be approved, otherwise the discrepancy shall be pointed out and the student shall be directed again to consult with his major professor.

When any such group of electives has been approved by the Committee on Group Electives and Graduation Schedules it shall be considered as a work prescribed for graduation. Any student who shall complete the work of any such group together with work aggregating twenty hours credit, to be chosen freely within the prescribed groups of departments, shall be entitled to graduate. It shall be the duty of the committee to determine for each candidate for graduation whether he has completed such work. This committee shall act as a committee, the individual members having no authority outside of committee.

FREE ELECTIVES.

Twenty hours, or an average of five hours in any one semester, may be freely elected from any of the foregoing courses offered in the College of Arts and Sciences, provided only that the requirements of the departments concerned are satisfied. In addition to these courses, the student may elect from subjects offered by the Department of Domestic Arts and Science in the College of Agriculture courses which may be counted toward the degrees of B.A. or B.S. to an amount not to exceed one hour in any one semester nor four hours in all.

THE HIGH SCHOOL TEACHERS' CERTIFICATE.

Students in the College of Arts and Sciences may obtain the "High School Teachers' Certificate Unlimited," entitling them to teach in the High Schools of the State by satisfactorily completing the courses offered in the Department of Education aggregating 18 hours. Such students shall in addition elect a group of 30 hours, with the advice and approval of their major professor, and 12 hours are to be freely elective under the above mentioned restrictions.

GRADUATION.

DEGREES.

1. The Degree of Bachelor of Arts (B.A.) will be granted to those who have completed in a satisfactory manner the equivalent of four years work, and who have satisfied the requirements set forth in the course in Liberal Arts.

2. The Degree of Bachelor of Science (B.S.) will be granted to those who complete satisfactorily any one of the regular courses of study in the Department of Applied Science, viz: the course in Mining or in Agriculture or in Mechanics or in Civil Engineering, or in the School of General Science.

3. Previous to the conferring of the degree the candidate must prepare and submit a satisfactory thesis upon some special or technical subject selected by him with the approval of the professor in charge of the department in which he desires to graduate.

4. The Degree of Master of Arts will be conferred upon graduates from the School of Liberal Arts who shall pursue a prescribed course of study for one year after receiving the degree of B.A. and shall present a satisfactory thesis.

5. The Degree of Master of Science will be conferred upon graduates from the course in Mining or in Agriculture or in Mechanics or in Civil Engineering or in General Science who shall pursue a prescribed course of study for one year after receiving the degree of B.S. and shall prepare a satisfactory thesis.

6. The Engineering Degrees: The requirements for the Degrees of Mining Engineer, Mechanical Engineer and Civil Engineer are under consideration, but will soon be announced.

THESES REQUIREMENTS.

A satisfactory thesis, prepared in accordance with the following rules, must be presented by each Senior as an essential condition for receiving a degree from any school of the University.

The thesis is intended to give the student an opportunity to make a comparatively independent effort in some chosen field while still under the guidance of some department, and to test his ability for such independent work in a way that cannot well be done in connection with ordinary class work.

It is expected, therefore, that such thesis will show the following characters, and its merits will be determined upon these points: Originality (comparative) and individual effort; scientific or literary knowledge; careful preparation; good arrangement and presentation of subject; correct English, punctuation and form.

In order to insure time for satisfactory preparation of his thesis, the student will elect and pursue thesis work in some department as he would any regular elective course.

Both subject and department should be reported to the Committee on Theses not later than the first Monday in November, and *all theses* should be completed and presented to the Committee on Theses on or before the first day of the final examinations in May.

In final form, the thesis should be prepared upon the officially designated paper and bound in the officially designated cover. All maps and drawings or other illustrations should be so arranged that they can be bound within the same cover. It is required that the thesis be typewritten, as this is not only neater, but three or more copies may be made at one time.

The title page should read:

(Title of Thesis.)
A Thesis
Presented as part requirement for the
(Degree of....., in.....)
by (Name of Writer.)
This may be all typewritten. (Date.)

On reverse of title page should appear:

Respectfully submitted by
(Name in Autograph)
Candidate for (.....Degree).
Approved: (Name of Professor in Charge in Autograph. Title of Professor in Charge).
Accepted by Thesis Committee: (Name of representative or Chairman).

Any thesis not prepared according to the rules and regulations of a regularly assigned department, or not approved by the head of such department, will not be accepted for any degree or diploma. The thesis must be written in some department in which the student is pursuing or has pursued advanced work, or which is distinctly connected with the life work his course indicates he has taken.

A certain day is set aside during Commencement week for the public reading of theses. Each student will be allowed not more than twenty minutes for reading, and this will necessitate frequently the cutting out or abstracting of certain parts. The Professor in charge should be consulted as to the parts most desirable to omit or condense for such reading. Any student who finds that he cannot be present on Thesis Day, on account of sickness or other good excuse, is under obligation to secure some one to read his thesis—preferably some classmate or instructor—and to report the fact to the Committee before the time of such reading.

It is understood that if any prizes or other awards be made for the most successful thesis under any given conditions of judgment, that only those theses that are presented on Thesis Day may be candidates for such awards.

The final copy, approved by the Professor in charge, and accepted by the Committee on Theses, becomes the property of the University, and is filed for record and reference.

COLLEGE OF ARTS AND SCIENCE.

SCHOOL OF ARTS. *Classical Course.*		SCHOOL OF GENERAL SCIENCE. *Science Course.*	
	FRESHMAN YEAR.		
English 1 and 2	3	English 1 and 2	3
Latin 1	4	French 1, Greek 1, or German 1	4
Mathematics 1a and 2a	3	Mathematics 1a and 2a	3
Physics 1	2	Physics 1	2
French 1, Greek 1, or German 1	4	Chemistry 1	4
Drill or Physical Culture	1	Drill or Physical Culture	1
	SOPHOMORE YEAR.		
English 4	3	English 4	3
Latin 2 and 3	3	French 2, Greek 2, German 2a and 2b	3
History 1	3	History 1	3
Natural Science	4	Natural Science	7
French 2, Greek 2, German 1a and 2b	3	Drill or Physical Culture	1
Drill or Physical Culture	1		
	JUNIOR YEAR.		
Drill or Physical Culture	1	Drill or Physical Culture	1

COURSES OF STUDY IN THE COLLEGE OF ARTS AND SCIENCE.

I. Greek.	VIII. Law.	XV. Botany.
II. Latin.	IX. Economics.	XVI. Forestry.
III. German.	X. Sociology.	XVII. Geology.
IV. French.	XI. Education.	XVIII. Chemistry
V. Spanish.	XII. Zoölogy.	XIX. Physics.
VI. English.	XIII. Bacteriology.	XX. Mathematics.
VII. History.	XIV. Entomology.	XXI. Military.

I. GREEK LANGUAGE AND LITERATURE.

Greek 1. Beginning Greek. Thorough drill in the elements of the Greek language, with a liberal amount of reading in Xenophon and Herodotus. *Gleason and Atherton:* First Greek Book. *Goodwin:* Selections from Xenophon and Herodotus. *Freshmen. Both semesters, M. W. Th. F.* President Stubbs. (B 4)

Greek 2. The Iliad or Odyssey. The reading of Homer's Iliad or Odyssey, accompanied throughout the year by methodical instruction in Greek Grammar, Greek Prose Composition and History of Ancient Greeks. *Goodwin:* Greek Grammar. *Allison:* Greek Prose Composition. *Pennell:* History of Ancient Greece. *Sophomore, Both semesters, M. W. Th. F.* President Stubbs. (.....4)

Greek 3. Lysias and Plato. A critical reading of the orations of Lysias and Plato's Apology of Socrates as a preparation for an appreciative study of Greek civilization. *First semester, M. W. F.* President Stubbs. (.....3)

Greek 4. Æschylus. The Prometheus Bound of Æschylus and lectures on the orators and dramatists of Greece. *Second semester, M. W. F.* President Stubbs. (.....3)

Greek 5. Euripides and Sophocles. Exposition of the Greek drama. The Alcestis of Euripides and the Electra of Sophocles. *First semester, M. W. F.* President Stubbs. (.....3)

Greek 6. Greek Testament. Critical reading of the Gospel of St. John, with lectures on the common dialect and on Hellenistic Greek. *Second semester, M. W. Th. F.* President Stubbs. (.....4)

II. LATIN LANGUAGE AND LITERATURE.

Latin 1. Vergil. The Æneid, Mythology, Sight Reading. The critical study of the first six books, supplemented by a brief survey of the remainder to emphasize the unity of the poem. *Comstock:* The Æneid of Vergil. *Gayley:* Classic Myths. *D'Ooge:* Easy Latin for Sight Reading. *Freshmen. Both semesters, M. W. Th. F.* Professor Church. (E 4)

Latin 2. Cicero. De Senectute, Prose Composition. *Bennett:* Cicero Cato Maior De Senectute. *Miller:* Latin Prose Composition, Part II. *Sophomores. First semester, M. W. F.* Professor Church. (B 3)

Latin 3. Horace, Catullus, Tibullus. Selected from poems of Horace, Catullus and Tibullus. Roman Literature, Sight Reading. *Bennett:* Horace, Odes and Epodes. *Crowell:* Selections from Catullus. *Wilkins:* Roman Literature. *Franklin and Greene:* Selections from Latin Prose Authors. *Sophomores. Second semester, M. W. F.* Professor Church. (B 3)

Courses 1–3 will be required for the Degree of Bachelor of Arts.

Latin 4. Comparative Pastoral Poetry. A study of the development of pastoral poetry in Greek, Latin, English, and American literature. *Andrew Lang:* Theocritus,

Bion, and Moschus. *Jerram:* Vergil, Bucolics. *Chambers:* English Pastorals. *First semester. Hours to be arranged.* Professor Church.

Latin 5. Comparative Comedy. A study of the elements of the comic drama in the best periods of its development. *Moulton:* Ancient Classical Drama. *Woodbridge:* The Drama, Its Law and Technique. *Rogers:* Metrical Translation of the Frogs of Aristophanes. *Drake:* Translation of Plautus, Menaechmi, or the Twin Brothers. *Sloman:* Terence, Pharmio, the Insolent Schemer. *Shakespeare:* Comedy of Errors. *Fielding:* The Mock Doctor. (This course will be continued by the study in the department of French of *Molière:* Les fourberies de Scapin, and *Racine:* Les Plaideurs.) *Second semester. Hours to be arranged.* Professor Church.

Latin 6. Roman Satire. A study of the times and satires of Lucilius, Horace and Juvenal. *Both semesters. Hours to be arranged.* Professor Church.

Latin 7. The History of the Development of the Latin Language. *Lindsay:* Latin Inscriptions. *Buecheler:* Carmima Latina Epigraphica. *Second semester. Hours to be arranged.* Professor Church.

Latin 8. Rapid Reading. *Franklin and Greene:* Selections from Latin Prose Authors. *First semester, 2 hours, 1 credit. Hours to be arranged.* Professor Church. (.....1)

Latin 9. Roman Life in Latin Prose and Verse. *Peck and Arrowsmith:* Roman Life in Latin Prose and Verse supplemented by standard works on Roman antiquities. *Second semester. Hours to be arranged.* Professor Church.

Latin 10. Lectures on Greek and Roman Art. *Second semester, T. Th.* Professor Church. (C 2)

Latin 11. Seminary in connection with baccalaureate thesis work. *Both semesters, 1 credit.* Professor Church. (.....1)

III. GERMAN LANGUAGE AND LITERATURE.

German 1. Elementary Course. The aim of the first year's work in German is to combine the advantages of abundant oral practice with thorough drill in grammar. *Collar:* Eysenbach. *Lange:* German Method. *Huss:* Preparatory German Reader. *Volkmann:* Kleine Geschichten. *Bauneback:* Waldnovellen. *Freshmen. Both semesters, M. W. Th. F.* Miss Wheeler. (D 4)

German 2a. Schiller. Special attention is given to plays from a literary and historical standpoint; drill in grammar is obtained by frequent exercises in prose composition. *Schiller:* Maria Stuart. *Schiller:* Die Jungfrau von Orleans. *Harris:* German Prose Composition. *Prerequisite:* German 1. *First semester, M. W. F.* Miss Wheeler. (C 3)

German 2b. Goethe, Lessing, Heine. Egmont, Nathan der Weise, Die Harzreise. These works are read with a view to developing the understanding and appreciation of the difference and the variety in style and thought of these writers. The reading is accompanied by a biographical study of the authors. *Prerequisite:* German 1. *Second semester, M. W. F.* Miss Wheeler. (C 3)

German 3. Goethe. Faust (Parts I, II). Lectures on the history and development of the Faust Legend and on the philosophical and ethical ideas of the drama. A minute study of the life of Goethe, so far as it enters into his work. *Thomas:* Goethe's Faust. *Prerequisites:* German 1, 2a and 2b. *Second semester, M. W. F.* Professor de Laguna. (B 3)

German 4. History of German Literature. *Bernhardt's* Deutsche Litteraturgeschichte is used as the basis of the work. Special attention is given to the study of German lyrics. Aus dem Deutschen Dichterwald and similar collections are read. Some of the best known poems are committed to memory. *Prerequisites:* German 1, 2a and 2b. *First semester, M. W. F.* Professor de Laguna. (B 3)

German 5. Seminary in Conversational German. *Elective. Prerequisites:* German 1 and 2. *Both semesters, T.* Professor de Laguna. (C 1)

IV. FRENCH LANGUAGE AND LITERATURE.

French 1. Elementary Course. Thorough drill in the grammatical rules and a facility in translating simple French. *Fraser and Squair:* French Grammar. *Rollins:*

French Reader. Selections from *Michaud's* Poésies de quatre à huit vers, and from Les Fables de La Fontaine are committed to memory. *Freshmen. Both semesters, M. W. Th. F.* Professor de Laguna. (D 4)

French 2. Grammar and Translation. The study of French Grammar continued, special stress being placed on the uses of the subjunctive, and the study of the various idiomatic constructions. Prose composition. The texts read differ each year. For 1903–1904, Le Voyage de M. Perrichon, Le Monde ou l'on s'ennuie, Le Verre d'Eau, Le Petit Chose, Les Deux Sourds, Colomba, and a Scientific French Reader were used. *Prerequisite:* French 1. *Both semesters, M. W. F.* Professor de Laguna. (C 3)

French 3. French Dramatists. The principal plays of *Molière, Racine* and *Corneille*, together with *Victor Hugo's* Hernani or Ruy Blas and *Rostand's* Cyrano de Bergerac or L'Aiglon. *Duval's* Histoire de la littérature française is used as a hand book. Synopses of the plays or critical essays, written in French, are required on the characteristics of each drama read. *Prerequisites:* French 1 and 2. *Both semesters, M. W. F.* Professor de Laguna. *Given in 1903–1904.* (A 3)

French 4. Modern French Poetry and Prose. This course has been arranged to alternate with the course in French Dramatists. It includes rapid reading of French lyrics, prose stories, and essays, together with some of the newer French plays. Work in French prose composition one hour each week. Essays in French at stated intervals. *Prerequisites:* French 1 and 2. *Both semesters, M. W. F.* Professor de Laguna. *Given in 1904–1905.* (A 3)

V. SPANISH LANGUAGE AND LITERATURE.

Spanish 1. Beginning Spanish. This course in Spanish has been laid out for those students who have had already at least two years work in French and two or more in Latin, thus making rapid progress possible. *Garner:* Spanish Grammar. *Matzke:* First Spanish Readings. As much time as can be spared from the text-book work is devoted to Spanish conversation. *Elective. Prerequisites:* Two years of Latin and two years of French, or an equivalent. *Both semesters, T. Th.* Professor de Laguna. (B 2)

Spanish 2. Advanced Spanish. Course in literature. *Prerequisite:* Spanish 1. *Both semesters, 2 hours, to be arranged.* Professor de Laguna. (.....2)

VI. ENGLISH LANGUAGE AND LITERATURE.

English 1. Practical Composition. Frequent writing of concise and effective English; training in exposition and description, and in business correspondence. *Scott and Denny:* Paragraph-Writing. *Freshmen, all Schools. Both semesters, M. W.* Professor Cushman. (B 2)

English 2. Public Speaking. The consideration of the theories of speech-making in general. Text and lectures. *Pittinger:* How to Become a Public Speaker. *Shurter:* Public Speaking. Practice in speaking, with instruction in the different forms of speeches; the debate, oration, banquet speaking, and the various occasional addresses. *Freshmen, all Schools. Both semesters, T.* Mr. Ayres. (A 1)

English 3. Forensics. Original investigation in recent history and sociology. Oral discussion. Practice in argumentation and delivery. Topic for 1903–1904: The Eastern Question. Topic for 1904–1905: Socialism. *Elective. Prerequisite:* English 1 and 2. *Both semesters, Monday evening, 2 hours, 2 credits.* Professor Cushman.

English 4. General History of English Literature. The development of our literature from the Beowulf to the time of Wordsworth. Lectures and reports on assigned reading. *Sophomore L. A., G. S., Agr. Sen. Norm. Both semesters, M. W. F.* Professor Cushman. (A 3)

English 5. Modern Poetry. The reading and interpretation of selections from Wordsworth, Tennyson, and Browning. Lectures and reports. *Elective. Prerequisites:* English 1, 2, and 4. *Both semesters, T. Th.* Professor Cushman. (C 2)

English 6. Shakespeare. The reading and interpretation of representative plays of Shakespeare. The technique and laws of the drama. *Elective. Prerequisites:* English 1, 2, and 4. *Both semesters, M. W. F.* Professor Cushman. (D 3)

English 7. American Literature. The development of American literature from the

colonial times to the close of the Civil War. Lectures and reports on assigned readings. *Both semesters, T. Th.* Professor Cushman. (A 2)

English 8. Problems in Literary Criticism. The technique of Shakespeare's dramas. Seminary for baccalaureate thesis work. *Hour to be arranged.* Professor Cushman. (.....1)

VII. HISTORY AND POLITICAL SCIENCE.

History 2. History of Europe in the Seventeenth, Eighteenth and Nineteenth Centuries. The political and social development as well as international relations since the Peace of Westphalia. Special attention will be given to the rise of Russia and of Prussia, and to the change in Western Europe from the absolutism of the "Old Régime" to the democracy and individualism of the Nineteenth Century. *Sophomores. Both semesters, M. W. F.* Professor Wier. (D 3)

History 3. History of England to 1845. Prehistoric and Roman Britain and the English settlements, through the growth of the English Kingship and the development of the Parliamentary Constitution to 1485. The character of the work will render desirable previous training in history on the part of the student. This course is important as a preparation for the study of law. *Elective. Prerequisites:* History 2. *Both semesters, T. Th. 3 credits.* Professor Wier. (D 2)

History 4. History of England since 1845. The political history is traced merely as a background for the study of the growth of the English Parliament and the Cabinet system. Comparisons are constantly made between the existing forms of government and administration in the various countries of Europe and America. Course 4 alternates with Course 3, and is likewise important as a preparation for the study of law. *Elective. Prerequisites:* History 2. *Both semesters, T. Th. 3 credits.* History 3 and 4 are given on alternate years. Professor Wier. (D 2)

History 5. Constitutional and Political History of the United States, 1775–1840. A detailed study of the political and constitutional questions arising during the period of the formation of the Union. Open to graduate students and Seniors; also, by special permission, to those below Senior rank. *Both semesters, M. W. F.* Professor Wier. (C 3)

History 6. Constitutional and Political History of the United States since 1840. The later period of the slavery struggle; the questions of secession, rebellion, and reconstruction. Particular attention is given to the discussion of present political problems. Open, by special permission, to advanced students below Senior rank. Course 6 alternates with Course 5, of which it is a continuation. *Both semesters, M. W. F.* History 5 and 6 are given on alternate years. Professor Wier. (C 3)

History 7. Special Courses. Special courses of study for graduate students will be laid out to fit the needs of each individual. Research work may thus be carried on under the guidance of the department. *Both semesters.* Professor Wier.

History 8. Thesis Work. In each of the first six courses in History the student is required to prepare a thesis embodying the results of independent work in the investigation of some special topic. When a student is taking two or more courses in History the same semester, he may select his thesis in connection with either of them. Professor Wier. (.....1)

VIII. LAW.

Law 1. Elementary Law and Jurisprudence. An exposition of the leading principles underlying the Common Law in the light of Jurisprudence. *Elective. First semester, M. W. F.* President Stubbs. (D 3)

Law 2. International Law. The principles of International Law as seen by the leading text writers of America, England, Europe and the Continent. *Scott's* Cases, and other authorities. *Elective. Second semester, M. W. F.* President Stubbs. (D 3)

Law 3. Advanced Law. The object of the course is to give the citizen a broader view than that outlined in the Junior course, and in some specialty, such as the law of property, evidence, etc. *Hopkins:* Law of Property. *McKelvey:* Evidence. *Elective. Prerequisites:* Law 1 and 2. *Both semesters, M. W. F.* Professor Lewers. (D 3)

IX. ECONOMICS.

Economics 1. Political Economy. The Elements of Political Economy. Recitations on the text, lectures and assigned reading. *Walker:* Political Economy, or some equivalent. *Elective. Both semesters, M. W. F.* Professor Lewers. (B 3)

Economics 2. Financial History of the United States. A detailed study of the experiences and legislation of the United States touching currency, coinage and banking. The study will be founded, as far as possible, on examination of original sources. *Prerequisite:* Economics 1. *Elective. Both semesters, M. W. F.* President Stubbs. (C 3)

X. SOCIOLOGY.

Sociology 1. Introduction to the Study of Society. The purpose of this course is to present the whole social process as a unity. The demand is not so much for detailed knowledge as for a correct point of view. Society is regarded as organic and evolutionary. The fundamental social institutions and their functions are studied, and their development through savagery, barbarism and civilization is considered. The point of view of the course is used to interpret historic social progress. *First semester, M. W. F.* Professor Adams. (A 3)

Sociology 2. Social Problems. The aim of this course is to present a number of present day problems from the point of view of Course 1. Among the problems are the labor problem, socialism, race problems, problems of the city, problems of rural communities, crime, pauperism, sanitation, etc. Not all of these subjects will receive attention during any one semester, but the course will include a number of them selected according to the interest of the class. *Second semester, M. W. F,* Professor Adams. (A 3)

Sociology 3. Primitive Society. The physical and mental characteristics of primitive man are considered in relation to the type of social organization. An attempt is made to account for the influence of custom, for the development of the various types of family, for the origin of political institutions and of the institution of property. Some attention may be given to primitive religious customs and ideas and to the development of morality. As the field covered by this course is very broad it is probable that the course will be varied from year to year, only a part of the subjects being taken up in any one course. Students, in their reading, may concentrate attention upon some one aspect of primitive life, choosing according to interest. Students capable of such work will be encouraged to study our native Indian society both through the literature supplied by the library and through direct observation. *Second semester, M. W. F.* Professor Adams. (C 3)

Sociology 4. Thesis. Students choosing Sociology for a major subject will choose a thesis subject near the beginning of the Senior year and carry on reading and research work during both semesters. Arrangements will be made in each case for consultations and reports during the year. *Both semesters. Hours to be arranged.* Professor Adams. (.....1)

XI. EDUCATION.

Education 5. The Logic of Education. This course is designed to acquaint the student with the logical nature of the teaching process. The aim of teaching being given, what are the steps logically necessary to the realization of the desired end? What are the steps necessary to the notion of the individual? What are the steps essential to the development of the general notion? What are the forms of inference and what are the steps in each case? Lesson plans exemplifying the logical order of procedure in presenting the various sorts of subject-matter. As much psychology as is necessary to the purpose of this course is included in the lectures. *First semester, M. W. F.* Professor Adams. (B 3)

Education 6. Child Study. This course is designed to do two things: (1) To stimulate students to an intelligent and sympathetic observation and interpretation of the activities of children and to acquaint them with the results of scientific investigations as to their physical and mental development; and (2) to consider the aim, matter and method of education as determined by the child's needs at each stage of development. The course in psychology must precede this or be taken at the same time. *Second semester, M. W. F.* Professor Adams. (B 3)

Education 7. History of Education. The aim of this course is to present education from a social point of view. Savage, barbarian, and ancient education are presented briefly by way of introduction, but chief attention is given to the modern period. In each case emphasis is placed upon the relation of the educational system to the type of social organization. Our own educational system is criticised as a product, in part, of the demands of older social conditions, and the need of readjustment to meet present demands is pointed out. *Second semester, M. W. Th. F.* Professor Adams. (C 4)

Education 8. Educational Values and Methods. In this course attention is given to the more immediate problems of school work. The course of study for elementary and secondary schools is considered from the standpoint of the child as an individual and as a future American citizen. An attempt is made to point out the values of each of the subjects ordinarily studied in public schools and to discover the methods of teaching and study that are best designed to realize these values. *Second semester, M. W. Th. F.* Professor Adams. (C 4)

Education 4. Practice Teaching. This course must be taken in connection with Course 4. Each student is required to devote four weeks to observation and teaching in the public schools of Reno under the direction of the Professor of Education and the Principal of Schools. This practice work is preceded by preparation consisting of a study of the Reno school system and of lesson planning. *One month in second semester.* Professor Adams.

Education 9. General Psychology. Lectures, reports, quizzes, and an occasional laboratory exercise. Special attention is given to the relation between the nervous and mental processes. The course is primarily intended to form a psychological basis for the advanced courses in education. *Prerequisite:* Zoölogy 5, or equivalent. *Second semester, M. W. F. A further lecture or laboratory period will be arranged for.* Professor Frandsen. (E 4)

XII. ZOÖLOGY.

Zoölogy 1. General Zoölogy. An introduction to the whole field of zoölogy; the systematic positions and relations of animals, the differentiation of complex systems of tissues and organs from the simple; the activities, habits and adaptation of animals, the main facts of development, the theory of evolution, etc. In the laboratory a number of animal types are studied, beginning with the simplest and proceeding to the most highly organized. *First semester, T. Th.* Professor Frandsen. (C 2) (Lab. 2)

Zoölogy 2. Comparative Anatomy and Physiology of Vertebrates. Lectures on the progressive development of structures and functions from the lower to the higher vertebrates. In the laboratory the student will make dissections of the trout, frog, lizard, rabbit, pigeon or allied forms. This course is designed as a foundation for the subsequent study of human anatomy in the medical school. Such a foundation is now required for entrance by some of the leading medical schools. It is also intended for those who plan to teach zoölogy or human anatomy in the high school and as a preparation for research work in anatomy. *Prerequisites:* Zoölogy 1 and 5. *Both semesters, M. W. F.* Professor Frandsen. (A 3) (Lab. 2)

Zoölogy 3. Histology. The methods of killing, fixing, sectioning, staining and mounting of objects for microscopic study. The lectures will deal mainly with vertebrate, particularly human histology, but the course may be varied in different years. In the laboratory the student may choose either some invertebrate or vertebrate form for study. *Prerequisites:* Zoölogy 1 and 5. *It is also desirable to have had Zoölogy 2. First semester, T. Th.* Professor Frandsen. (B 2) (Lab. 2)

Zoölogy 4. Embryology. Lectures on comparative embryology. The laboratory work consists mainly of the preparation and study of sections of the frog or chick at successive stages of development. *Prerequisites:* Zoölogy 1, 4, 5, and (if possible) 2. *Second semester, T. Th.* Professor Frandsen. (A 2) (Lab. 2)

Zoölogy 5. Human Anatomy, Physiology and Hygiene. Special attention will be given in the second semester's work to the subject of Hygiene, including personal hygiene, the hygiene of contagious diseases, emergencies, etc. The laboratory work will consist of some microscopic work on the tissues and organs, simple physiological experiments and demonstrations, chemical experiments illustrative of the process of diges-

tion, and the dissection of vertebrate organs. *Laboratory, Friday 1 to 3. Elective. Both semesters, M. W. and occasional.* Professor Frandsen. (D 3)

Zoölogy 8. Hygiene. This course is simply the second semester's work of Zoölogy 5. It may be elected independently of the first semester's work, provided the student satisfies the instructor that he has a sufficient knowledge of anatomy and physiology to make the course profitable. *Second semester, M. W. F.* Professor Frandsen. (D 3)

Zoölogy 9. Anatomy (Special Course). This course is intended for those students who wish some training in dissection and knowledge of anatomy but who have not the time or preparation for the broader Zoölogy 2. *The hours and units credit will be arranged to suit the special cases. Both semesters.* Professor Frandsen.

Zoölogy 10. Research Course. Students electing Zoölogy as a major will be required to select a thesis subject in the early part of the Senior year. A number of subjects selected from the different lines of zoölogical research, anatomy, physiology, histology, and embryology will be submitted to the choice of the student. If desired, a student may elect thesis work in excess of the minimum one unit required. *Consultation hours to be arranged with the student. Both semesters.* Professor Frandsen.

XIII. BACTERIOLOGY.

Bacteriology 1. Elementary Course. Morphology and classification of bacteria. Methods of making cultures and studying the life processes of bacteria. Fermentation, putrefaction, etc., and their importance in the economy of nature. Pathogenic bacteria. Methods of disinfection, etc. In the laboratory, the student will learn how to obtain pure cultures of some of the common bacteria in the air, water and soil, and how to make slide preparations of them. A final study may be made of some pathogenic form. *Prerequisite:* Botany 1. *Students wishing to take this course must first secure written permission from the instructor in charge. Second semester, T. Th.* Professor Frandsen. (B 2) (Lab. 2)

XIV. ENTOMOLOGY.

Entomology 1. General Entomology. Lectures on the habits and transformations of our most interesting insects with the characteristics of the orders, sub-orders, etc. *One period of laboratory work. Elective. Prerequisite:* Zoölogy 1. *Second semester, T. Th.* Assistant Professor Doten. (D 2) (Lab. 1)

XV. BOTANY.

Botany 1. General Botany. A general résumé of plant life from the lowest to the highest forms; slime moulds, algæ, lichens, fungi, liverworts, mosses, ferns, horsetails, club mosses, conebearers and flowering plants. Special attention is given to the plants in each group of economic importance. Two lectures and two laboratory periods a week illustrated by lantern slides. *Freshmen. Second semester, W. F.* Professor Kennedy. (D 4)

Botany 2. Structural and Systematic Botany. A study of the fundamental principles of plant life and growth and the adaptations of the higher plants to environmental forces. Two lectures and two laboratory periods a week. Illustrated by lantern slides and demonstrations. *Sophomores. Second semester, T. Th.* Professor Kennedy. (D 4)

Botany 3. Comparative Histology of Plants. The student will be introduced to methods of investigation, including the use of the microtome and the preparation of microscopic slides. Preliminary studies of the vegetable cell and its contents. Kinds of tissues. Microscopic structure of stems, roots, leaves and floral organs. *L. A., Agr., G. S. Prerequisites:* Botany 1 or 2. *Second semester, T. Th.* Professor Kennedy. (D 2)

Botany 4. Taxonomy and Phylogeny of the Angiospermo. A study of the genetic relationship of the phanerogamous orders with practical studies in the laboratory relative to the flora of Nevada. *Prerequisite:* Botany 1, or its equivalent. *L. A., Agr., G. S. Both semesters, M. W. F.* Professor Kennedy. (D 3)

Botany 5. Research. This State offers a new and inviting field for investigation in botanical and horticultural science and in forestry. The flora of the State is but little known, leaving ample opportunity for original research work during the summer months in collecting material for taxonomic or histological study in the laboratory. *Students who have taken two of the Courses 1, 2, 3 or 4 in Botany, may, after consultation with the*

instructor, be assigned special problems suitable for thesis work. Hours to be arranged. Professor Kennedy.

XVI. FORESTRY.

Forestry 1. Elementary Forestry. Lectures on the effects of deforestation on the water supply, forest protection and regeneration; the use and durability of the different woods, and forest economics. *Prerequisite:* Botany 2. *First semester, M. W. Th. F.; second semester, M. W. F.* Professor Kennedy. (B 4)

XVII. GEOLOGY AND MINERALOGY.

Geology 1. Elementary Mineralogy. *a.* Lectures on the general properties of minerals, with particular reference to their use in determination of species. *b.* Laboratory: (1) Determination of minerals by observation methods and simple tests useful in fields; (2) blowpipe mineral analysis. *Prerequisites:* Chemistry 1 and 3. *Sophomores, C. E., Mines. Both semesters, Th. F.* Professor Louderback. (Lab. 2)

Geology 2. Dynamic and Structural. Illustrated lectures. *Juniors, Agr., C. E., Mines. First semester, M. W. F.* Professor Louderback. (D 3)

Geology 3. Petrography. The nature, origin and distinctive properties of rocks. *Prerequisites:* Mineralogy 1 and Geology 2. *Juniors, Agr., C. E., Mines. Second semester, M. W.* Professor Louderback. (D 2)

Geology 4. Geological Laboratory. Rock constituents. Supplementary to Geology 3. *Juniors. Second semester, M.* Professor Louderback. (Lab. 1)

Geology 5. Field Geology. A practical study of field methods and their application to the formations in the vicinity of the University, with practice at map reading and plotting of results. *Prerequisites:* Geology 6 (may be taken simultaneously); ten days of actual satisfactory field work during the second term. *Juniors. Second semester, M* Professor Louderback. (Lab. 1)

Geology 6. Historical Geology. An outline of the history of the earth, as written in the rocks of the crust and the topographic forms of the surface; with the distinctive characteristics of the rocks of the different geological periods, especially in Western America. *Seniors. Prerequisite:* Geology 2. *First semester, T. Th.* Professor Louderback. (A 2)

Geology 7. Economic Geology. A discussion of the nature and origin of ore and other economic deposits, and a study of their mode of occurrence in typical and important mining regions. *Seniors. Prerequisites:* Geology 1, 2, 3, 4, 5, and 6. *Second semester, T. Th.* Professor Louderback. (A 2)

Geology 8. Research Work. This State, even in the vicinity of the University, offers a particularly open and inviting field of investigation in all the branches of geological science—physiography (physical geography), petrography, and glacial, stratigraphic and economic geology. The work may consist of: 1. The study of some special geological problem, or of the geology of some special district in the field, and the preparation of results. 2. The investigation of special problems, or the study of material gathered in the field, by chemical or microscopical laboratory methods. 3. Critical reading and discussion of important scientific economic monographs, and of current geological literature. *Hours to be arranged.* Professor Louderback.

XVIII. CHEMISTRY.

Chemistry 1. General Chemistry (Lecture Course). Lectures and recitations on the theories and principles of chemistry with special reference to their applications to practical work. Technical processes receive much attention and the latest developments of chemical theory are discussed. Stoichiometrical calculations are made a feature of this course. *Richter:* Inorganic Chemistry. (For supplementary reading the works of *Remsen, Ostwald, Hinds*, etc., are recommended.) *Freshmen. Both semesters, T. Th.* Professor Wilson and Mr. Fitzmaurice. (B 2)

Chemistry 2. General Chemistry (Lecture Course). Lectures on the essentials of chemistry, non-metals, metals, and carbon compounds; theoretical and descriptive.

science—physiography (physical geography), petrography, and glacial, stratigraphic and economic geology. The work may consist of: 1. The study of some special geological problem, or of the geology of some special district in the field, and the preparation of results. 2. The investigation of special problems, or the study of material gathered in the field, by chemical or microscopical laboratory methods. 3. Critical reading and discussion of important scientific economic monographs, and of current geological literature. *Hours to be arranged.* Professor Louderback.

III. CHEMISTRY.

Chemistry 1. General Chemistry (Lecture Course). Lectures and recitations on the theories and principles of chemistry with special reference to their applications to practical work. Technical processes receive much attention and the latest developments of chemical theory are discussed. Stoichiometrical calculations are made a feature of this course. *Richter:* Inorganic Chemistry. (For supplementary reading the works of *Remsen, Ostwald, Hinds*, etc., are recommended.) *Freshmen. Both semesters, T. Th.* Professor Wilson and Mr. Fitzmaurice. (B 2)

Chemistry 2. General Chemistry (Lecture Course). Lectures on the essentials of chemistry, non-metals, metals, and carbon compounds; theoretical and descriptive. *Hessler and Smith:* Essentials of Chemistry. *Sophomores, L. A. Both semesters, T. Th.* Professor Wilson and Mr. Fitzmaurice. (C 2)

Chemistry 3. Qualitative Analysis (Laboratory Course). The reactions of the more important elements are thoroughly studied and the methods of their separation in mixtures of varying complexity are taught. This course begins with the analysis of simple compounds and extends to the analysis of complex substances such as ore, minerals and alloys. Effort is made to inculcate the proper methods of manipulation and to avoid mechanical work. All reactions are required to be written as they occur and the notes to be carefully and neatly kept and handed in for correction. A feature of the course is the frequent quiz, either oral or written, together with a full explanation of the theory of analysis. *Medicus:* Qualitative Analysis (Marshall's Translation). *Sharwood:* Scheme of Separation. *Freshmen, Science. Both semesters, M. T. W.* Professor Wilson and Mr. Fitzmaurice. (Lab. 3)

Chemistry 4. Quantitative Analysis (Laboratory Course). A very thorough and comprehensive course covering the gravimetric determination of the components of simple substances: limestone, feldspar, coal, ores of the common metals, acidimetry and alkalimetry, and volumetric analysis. Special attention is given to manipulation. After the general course as outlined is completed, individual assignments are made, according to the school in which the student wishes to take his degree. *Talbot:* Quantitative Analysis. (References: *Cairn's* Fresenius and *Sutton's* Volumetric Analysis.) *Sophomores. Both semesters, M. T. W.* Professor Wilson and Mr. Fitzmaurice. (Lab. 3)

IV. PHYSICS.

Physics 1. Physical Laboratory. A series of more or less careful quantitative experiments intended to give the student a practical knowledge of the fundamental laws of Physics, and to introduce him to careful quantitative measurement. Care, neatness, exactness, and close scientific reasoning are the characteristic features of the work. *Freshmen, M. E., C. E., Mines. Both semesters, two afternoons.* Professor Etcheverry. (Lab. 2)

Physics 2. General Physics. Lectures and recitations with experimental illustrations and problems. Properties of matter, heat, magnetism, and electricity. *Sophomores. M. E., C. E., Mines, Both semesters, M. W. F.* Professor Etcheverry. (B 3)

Physics 3. Physical Measurements. Experimental work requiring quantitative results. Most of the experiments are electrical experiments. *Sophomores, M. E., C. E., Mines. Both semesters, two afternoons.* Professor Etcheverry. (Lab. 2)

V. MATHEMATICS.

Mathematics 1b. College Algebra. Begins with quadratic equations, and includes the progressions, proportion, variation, the Binomial Theorem with applications and logarithms. *Freshmen. First semester, M. W. Th. F.* Professor Thurtell. (A 4)

Mathematics 2b. Solid Geometry and Plane Trigonometry. The geometry of the plane, the cylinder, the cone, the prism, the pyramid and the sphere. The trigonometry includes the elementary ideas concerning the trigonometrical functions and their relations to each other and the solution of plane triangles. *Freshmen. Second semester, M. W. Th. F.* Professor Thurtell. (A 4)

Mathematics 3. Spherical Trigonometry. The methods of solution of all classes of spherical triangles and the application of spherical trigonometry to the elementary problems of the astronomy of the earth. *Sophomores. First semester, M. T. Th. F. for six weeks.* Professor Thurtell. (B 4)

Mathematics 4. Analytic Geometry. The straight line and the circle. This follows Course 3 during last ten weeks of the first semester. *Sophomores. First semester, M. T. Th. F. for ten weeks.* Professor Thurtell. (B 4)

Mathematics 5. Analytical Geometry. The geometry of the parabola, the ellipse, the hyperbola and of some of the curves of higher degree. *Sophomores. First eight weeks of second semester, M. T. Th. F.* Professor Thurtell. (B 4)

Mathematics 6. Differential Calculus. Methods of differentiation of the different classes of functions and of the application of the calculus to expansions of functions, development of equations of tangents and normals, curve tracing, maxima and minima. *Sophomores. Second semester, last ten weeks, M. T. Th. F.* Professor Thurtell. (B 4)

Mathematics 7. Integral Calculus. Methods of integration of functions, the application of the calculus to finding areas of surfaces, lengths of curves, volumes of solids, moment of inertia. *Juniors. First semester, M. W. F.* Professor Thurtell. (C 3)

Mathematics 8. Analytical Mechanics. The analytical solution of problems of statics and kinetics and kinematics. *Bowser's* Analytic Mechanics is used for a text. *Juniors. Second semester, M. W. F.* Professor Thurtell. (C 3)

Mathematics 9. Hydraulics. The study of the general subject with special reference to the demands made upon engineers in the arid West. *Merriman's* Hydraulics is used as a text. *Seniors. First semester, M. W. F.* Professor Thurtell. (D 3)

Mathematics 10. Strength of Materials. The study of the general subject with reference to its practical value in problems concerning engineering designs. *Merriman's* Mechanics of Engineering is used as a text. *Juniors. Second semester, T. Th.* Professor Thurtell. (D 2)

VI. MINING.

Mining 1. Lectures and Recitations. Excavation, explosives, tunneling, boring, shaft-sinking. *Seniors. First semester, M. W. Th. F.* Professor Young. (B 4)

Mining 2. Lectures and Recitations. Ore deposits, prospecting, development, exploitation, examination, management, mine equipment, mining law. *Seniors. Second semester, M. W. Th. F.* Professor Young. (B 4)

Mining 3. Mining Laboratory. Problems in engineering and in the design of mining and metallurgical machinery; review and discussion of technical journals and books. *Seniors. Both semesters, Lab., M.* Professor Young.

Mining 4. Mining Laboratory. The work in this course is given by the Mechanical Engineering Department, and consists of practice in sharpening and tempering hand and machine drills, in the use of the same, and in forging and welding. *Juniors. First semester, M. T.* Professor Young. (E 1)

Mining 5. Excursions. During the year two extended trips are taken to Virginia City and vicinity. The first trip is taken during the latter part of the first term and has for its object the study of an ore deposit. The surface and underground conditions and the relationship of the mine openings and underground work to the deposit are the special subjects of study. Mapping of the geological formations is also done in order to facilitate the interpretation of the structure. The second trip, taken in the latter half of the second semester, has for its object the study of the mine surface plants, mine equipment, underground work, mills, cyanide and reduction plants. A report of the observations, together with sketches, is required of each student. *Seniors.* Professor Young.

Mining 6. Engineering Contracts and Specifications. Lectures and text. *Seniors. Second semester, M.* Professor Young. (C 1)

VII. METALLURGY.

Mining 7. Metallurgy (General). Lectures and recitations. Physical properties of the more important metals and alloys; manufacture and physical properties of the structural metals; fuel and heat measurement; metallurgical furnaces, processes and products; crushing and sampling of ores. *Juniors. Both semesters, T. Th.* Professor Young. (D 2)

Mining 8. Metallurgy (Gold and Silver). Lectures and recitations. A discussion of the ores, processes of separation, plants and machinery, management and economic conditions. *Seniors. First semester, M. W. Th. F.* Professor Young. (C 4)

Mining 9. Metallurgy (Copper, Lead, Zinc). Lectures and recitations. A discussion of the ores, methods of reduction, plants and machinery, management and economic conditions. *Seniors. Second semester, M. W. Th. F.* Professor Young. (C 4)

Mining 10. Metallurgical Laboratory. A series of experiments are given which are designed to supplement, in part, the class-room work and to illustrate the more important methods of ore treatment. *Seniors. Both semesters, Th. F.* Professor Young. (E 2)

Mining 11. Assaying. Lectures and recitations. Methods of assay, systems of weights used, calculations and problems, equipment of assaying laboratories, sampling, chemistry of assaying, errors and losses in assaying, special topics. *Juniors. Both semesters, Lab., W.* Professor Young. (B 1)

Mining 12. Assaying Laboratory. Practice in weighing, crushing and sampling of ores; scorification and crucible assay; assay of metallurgical products; use of miners' pan, horn and batea. *First semester, Lab., T. Second semester, Lab., T. W.* Professor Young.

Mining 13. Thesis. Each Senior student is required to hand in a thesis on some subject in mining or metallurgy or related branch of engineering. *Seniors. Second semester.* Professor Young.

VIII. MECHANICAL ENGINEERING.

Mechanical Engineering 1. Descriptive Geometry. The representation of points, lines and planes is taught, together with problems relating to the right line and plane. Curved lines, tangents, normals, cylindricals, conical and warped surfaces, the helicoid, the hyperboloid, and problems relating to them; shades and shadows and the principles of perspective and isometric projection are studied. Many practical problems are given for solution and construction. *Sophomores. Second semester, M. W. F.* Assistant Professor Scrugham. (D 3)

Mechanical Engineering 2. Kinematics. The geometry of machinery, showing the laws which govern the velocity of moving parts, velocity ratio in various motions, the correct forms for gear teeth, quick return motions, link motions and the manner of designing trains of mechanism. The mathematical demonstrations and proofs are first studied from text book, and then practical problems are given to the student to solve on the drawing board. *Junior. First semester, T. Th.* Professor Blessing. (B 2)

Mechanical Engineering 3. Theory of Steam Boilers. The design and construction of the various types of commercial steam boilers; including methods of riveting and staying; the care of boilers, the prevention of scale and corrosion, consumption of fuel, determining the horse power of boilers, the design of boilers for efficiency and economy, the methods of power transmission and the study of modern boiler plants. At the completion of the text book each student is required to design a boiler or battery of boilers and necessary fittings. This includes the preparation of specifications and complete working drawings ready for the boiler maker and the erecting engineer. *Junior. Second semester, T. Th.* Professor Blessing. (B 2)

Mechanical Engineering 4. Machine Design. A study of the application of the laws of velocity force and strength of materials to the design of machinery. The design of tooth and belt gearing, shafts, journals, hangers, cylinders, springs, bolts, keys, etc. The text-book work is strengthened by the practical work on the drawing board. *Senior. First semester, M. W. F.* Professsor Blessing. (C 3)

Mechanical Engineering 5. Steam Engine Design. The principles involved in the design of all parts of the steam engine, together with the theoretical indicator diagrams for simple, compound and triple expansion engines. Crank effort diagrams, illustrating

the influence of friction and of the reciprocating and rotative parts, are taken up, and finally the valve motion and weight of the reciprocating parts are designed to give results which will conform to an assumed ideal indicator card. *Senior. Second semester, M. T. Th. F.* Professor Blessing. (A 4)

Mechanical Engineering 6. Dynamometers and Measurement of Power. The determination of driving power, friction brakes, absorption dynamometers, transmission dynamometers, the measurement of water and electrical power and power required to drive machinery. The text book is followed by experimental work in the laboratory. *Senior. First semester, M. W. F.* Professor Blessing. (D 3)

Mechanical Engineering 7. Power Plants. In the industrial and business world to-day the power plant occupies a place of importance which it never has had hitherto, and the success or failure of business enterprises and manufacturing corporations often depends upon the condition of the power house. In order to judge fairly the advantages and disadvantages involved in questions relating to the power plant, the engineer must be familiar with the solutions which experience and good judgment have proposed for similar problems. To this end the mechanical engineering of power plants is here presented in rather a non-mathematical way and the machinery appliances and economical auxiliaries employed have their practical and experimental side shown. *Senior. Second semester, T. Th.* Professor Blessing. (.....2)

Mechanical Engineering 8. Valve Gearing. A study of the various forms of standard engine valves, link motions, radial gears and shaft regulation. The mathematical proofs of the methods and results attained by the Zenner, Bilgram, Reuleaux and Elliptical diagrams are studied from the text book, after which the designing of the valve gears becomes a drawing-board process. Each student before completing the work must design some form of standard engine valve and governor; the data being taken from trade catalogues and engines actually in use. *Senior. First semester, M. Th. F.* Professor Blessing. (C 2)

Mechanical Engineering 9. Thesis Work. The later part of the second semester of the Senior year is given to thesis work. This consists of some new design of a machine or an original investigation of some subject congenial to the student's taste and included in the scope of the course. The subjects for these theses are assigned to the student by the head of the Mechanical Engineering Department; and the completed thesis, together with the drawings and illustrations accompanying them, are kept on file that they may serve as references for future investigations. *Seniors. Second semester. Hours to be arranged.* Professor Blessing and Assistant Professor Scrugham. (.....)

Mechanical Engineering 10. Inspection Visits. It is the desire of the department to arrange for an inspection trip to the most important manufacturing establishments in the vicinity in order that the student may make a study of modern structures and methods in manufacture. The practical value of such excursions has long been recognized by such institutions as Kentucky State College, Rose Polytechnic Institute, Purdue University, Massachusetts Institute of Technology, Case School of Applied Science, and many others, where they have become regular features of the course. These trips are for Juniors and Seniors only. Professor Blessing and Assistant Professor Scrugham.

Mechanical Engineering 11. Electricity and Magnetism. Frictional Electricity, Magnetism, Current Electricity, Electrostatics, Electro-magnetics, Measurement of Currents, Thermo-electricity, Heat, Power and Light from Electric Currents, Inductance, Dynamos, Motors, Transformers, Electro-chemistry, Telegraphy, Telephony, and Electric Waves. *Prerequisite:* Physics 2. *Juniors. Second semester, M. T. F.* Assistant Professor Scrugham. (B 3)

Mechanical Engineering 12. Electrical Course. The studies pursued by those electing the electrical course will constitute largely those appearing in the regular Mechanical Engineering Course. The work in Kinematics, Machine Design, Dynamometers and Measurements of Power, and Valve Gearing are shortened, and subjects pertaining to Theory and Design of Dynamo-electric Machinery, Electrical Appliances, Power Transmission, etc., are given. Practical work will embrace dynamo and motor operating and testing. The thesis required for graduation will be of an electrical character, either a

design or an investigation of existing machines. *Prerequisite:* Mechanics 11. *Both semesters. Hours to be arranged.* Assistant Professor Scrugham.

IX. DRAWING.

Drawing 1. Freehand Drawing. Plates of geometrical figures, conventional signs, lettering, etc. *M. E., C. E., Mines. Freshmen. First semester, M. T. W. Th. F.* Assistant Professor Scrugham. (C 2)

Drawing 2. Mechanical Drawing. Plates, lettering, machine parts, etc. *M. E., C. E., Mines. Prerequisite:* Drawing 1. *Second semester, M. T. W. Th. F.* Assistant Professor Scrugham. (C 2)

Drawing 3. Elementary Machine Design. Drawing and design of machine parts, modern shop arrangement, etc. *M. E., C. E. Prerequisite:* Drawing 2. *First semester, M. T.* Assistant Professor Scrugham. (Drawing 2)

Drawing 4. Descriptive Geometry. *Faunce:* Descriptive Geometry. *M. E., C. E., Mines. Prerequisite:* Drawing 2. *Second semester, M. T. W. Th. F.* Assistant Professor Scrugham. (D 2)

Drawing 5. Kinematics and Mechanism. *Junior. First semester, M. T. W. Th. F.* Professor Blessing. (.....5)

Drawing 6. Steam Boiler Design. *Junior. Second semester, M. T. W. Th. F.* Professor Blessing. (.....5)

Drawing 7. Advanced Machine Design. *Senior. Both semesters.* Professor Blessing. (.....)

Drawing 8. Valve and Governor Design. *Senior. Second semester, M. T. W. Th. F.* Professor Blessing. (.....5)

X. CIVIL ENGINEERING.

Civil Engineering 1a. Theory of Surveying. Construction, use and adjustment of instruments. Methods employed in topographic, land, city, mining and hydrographic surveys. Practical problems. Lectures and recitations. *Juniors. Both semesters, T. Th.* Professor Etcheverry. (C 2)

Civil Engineering 1b. Field practice and office work. Adjustments of surveying instruments in the field; taking of notes for plane and topographical surveys and making of maps from them. Leveling. Plane table work. *Juniors. Both semesters, Th. F.* Professor Etcheverry. (Field 2)

Civil Engineering 2. Highways and pavements. Construction and maintenance of county roads and city streets and pavements. Elements of expense and total cost of construction and maintenance. *Sophomores. Second semester, M. W. F.* Professor Etcheverry. (A 3)

Civil Engineering 3. Materials of Construction. Properties and characteristics of the materials used in engineering construction. Preparation for use, methods of testing strength and quality. *Sophomores. First semester, M. W. F.* Professor Etcheverry. (A 3)

Civil Engineering 4. Strength of Materials. *See Mathematics 10.*

Civil Engineering 5a. Theory of railroad surveying. Simple, compound and reversed curves. Transition curves. Switch work. Cross-section work. Earthwork computations. *Seniors. Second semester, M. W. F.* Professor Etcheverry. (A 3)

Civil Engineering 5b. Railroad field practice and mapping. Running of curves. Cross-section work, earthwork computations. A complete survey and location of a line is required with computations and mapping. *Seniors. Second semester, 2 afternoons.* Professor Etcheverry.

Civil Engineering 6. Framed Structures. Computation of stresses in roofs and simple bridge trusses by analytical and graphical methods. Drawing. *T. W.* Skew and irregular trusses. Positions of any system of concentrated moving loads for greatest stresses. *Juniors. Second semester, Th. F.* Professor Etcheverry. (Lab. 2)

Civil Engineering 7. Structural Design. Making complete detailed designs of several structures, such as plate girder, roof and bridge trusses. *Seniors. First semester, 3 periods; second semester, 2 periods.* Professor Etcheverry. (.....3) (.....2)

Nevada State Normal School

NEVADA STATE NORMAL SCHOOL.

FACULTY.

JOSEPH EDWARD STUBBS	President
ROMANZO ADAMS	Dean; Professor of Education
	Assistant Professor of Education
HENRY THURTELL	Professor of Mathematics
ROBERT LEWERS	Professor of Bookkeeping
NATHANIEL ESTES WILSON	Professor of Chemistry
JAMES EDWARD CHURCH	Professor of Latin
LAURA DE LAGUNA	Associate Professor of French and German
JENNIE ELIZABETH WIER	Associate Professor of History and Civics
LYSANDER WILLIAM CUSHMAN	Professor of English
GEORGE DAVIS LOUDERBACK	Professor of Geology
P. BEVERIDGE KENNEDY	Professor of Botany
PETER FRANDSEN	Professor of Physiology and Psychology
BERNARD ALFRED ETCHEVERRY	Associate Professor of Physics
SAMUEL BRADFORD DOTEN	Assistant Professor of Mathematics
MILDRED MAUDE WHEELER	Instructor in German and Mathematics
FRANCES ELIZABETH SHORT	Instructor in English
ALICE L. LAYTON	Instructor in Vocal Music
	Instructor in Drawing

FOUNDATION.

The Legislature shall have power to establish Normal Schools, and such different grades of schools from the primary department to the University as in their discretion they may deem necessary. *Constitution, Article XI, Section 5.*

LEGISLATION.

An Act approved February 7, 1887, amended March 19, 1891, reads as follows:

SECTION 1. There shall be established in the State University of Nevada a school for the instruction of teachers in which shall be taught all the branches of instruction which are taught in the common schools of this State, together with the theory and practice of teaching, school law, botany, psychology and geology.

LEGISLATION WITH RESPECT TO THE PUBLIC SCHOOLS.

The School Trustees shall have power, and it shall be their duty: Third—To divide the public schools within their district into infant, primary, grammar, and high school departments and to employ competent and legally qualified teachers for the instruction of the different departments whenever they shall deem such division into departments advisable; *provided*, there shall be such means for all such departments, and if not, then in the order in which they are herein named, excepting the infant school. *Cutting's Compiled Laws of Nevada, Paragraph 1298.*

THE NORMAL SCHOOL.

In accordance with the Constitution of the State, the Legislature has made provision for a Normal School as a coördinate department of the University.

In the State of Nevada the high school is an integral part of the common school system, which for convenience includes the primary, grammar and high schools.

The State Normal School offers courses of instruction, both professional and liberal,

for students who wish to become teachers in the grammar and high schools of Nevada and other States.

The State Normal School is organized to provide for the professional training of teachers. As a coördinate department of the State University, it is possessed of the advantages offered by the well-equipped laboratories and the library and by the strong staff of specialists who compose the University Faculty.

AIMS.

The purpose of the State Normal School in providing instruction in the Science and Art of Teaching as follows:

1. To train students for positions in the public school service.
2. To promote the study of educational science.
3. To teach the history of education and of educational systems and doctrines.
4. To secure to teaching the rights and advantages of a profession.
5. To give unity to our State educational system.

CONDITIONS OF ADMISSION.

1. Applicants for admission to any of the classes in the Normal School must be at least 15 years of age, and must have a good moral character.

2. Graduates of fully accredited high schools will be admitted without examination and permitted to graduate after the successful completion of one year's work.

3. Graduates of partially accredited high schools will be admitted without examination in the subjects in which they are accredited. Such students, however, will not be able to graduate in one year. The time required for graduation will vary, depending upon the amount and character of the work done in the high school.

4. Persons not graduates of high schools will be given the same privileges, provided they give evidence of equal attainments.

5. A person holding a teacher's certificate granted in this State, or in other States maintaining equivalent standard, may be admitted without examination.

ADMISSION TO THE FOUR YEARS' COURSE FOR GRAMMAR SCHOOL GRADUATES.

1. Applicants for admission to the first year of the four years' course must have completed satisfactorily the work of the eighth grade of the grammar school.

2. Students who are graduates of accredited grammar schools may be admitted without examination.

3. Students who do not present credentials will be admitted by examination upon the following subjects: Reading, Writing, Spelling, Composition, Grammar, Arithmetic, Geography, United States History, and Elementary Physiology and Hygiene.

4. For students who wish to take the entrance examinations at home, arrangements will be made whereby such examinations may be conducted by the County Superintendent of Schools or by any public school teacher. The examination questions will be furnished by the Normal School, and all the examination papers must be sent to the Dean of the Normal School for grading. These entrance examinations may be taken within two months of the close of the public school year.

5. Entrance examinations will be given at the State Normal School on August 31 and September 1 and 2, 1904.

ADMISSION TO THE COLLEGE NORMAL.

1. Candidates for the College Normal diploma will take the work either of the classical course or of the general science course through the four college years. Graduates of accredited high schools are admitted to the Freshman class without examination. Graduates from partially accredited high schools are admitted without examination in accredited subjects.

2. All other students may receive advanced standing by passing an examination upon the subjects offered in this course.

3. Students in this course will, as a rule, take their professional subjects to an amount equal to eighteen hours in their Junior and Senior years. If they have already

taken their grammar grade diploma from the State Normal School, they will be required to take only ten hours of professional subjects in the Junior and Senior years.

SPECIAL STUDENTS.

1. Teachers and others who may not be able to take the full course required for graduation may be admitted as special students in either the course for the Normal diploma of the grammar grade or the Normal diploma of the high school grade, provided they satisfy the Dean of the Normal School that they are able to do the work required by either course of study.

2. Special students who remain in attendance at least one full year may receive a certified statement of their work showing the subjects completed and the grades received.

3. Teachers and others who contemplate entering as special students should write to the Dean of the Normal School for additional information.

PRACTICE TEACHING.

The public schools of Reno with an attendance of over a thousand pupils and with a strong teaching corps constitute both model school and practice school for the Normal School. Each Senior student devotes four weeks to observation and teaching in the public schools under the joint supervision of the Dean of the Normal School and the Principal of the Public Schools, the regular teachers acting as model and critic teachers.

GRADUATION.

1. Students who complete the course of study for a grammar grade diploma will receive a diploma bearing the heading, "Nevada State Normal School, Grammar Grade Diploma." Graduates of accredited high schools ought to obtain this diploma in one year. Graduates of accredited grammar schools should accomplish this work in four years. Other students may be able to do the work in two or three years.

2. Students who complete the full course of study prescribed for the high school diploma will receive a diploma bearing the heading, "Nevada State Normal School." These students will also matriculate in the College of Liberal Arts and will be graduated with the Degree of Bachelor of Arts or Bachelor of Science.

STATE CERTIFICATES.

1. A student who completes the work of the grammar grade course and receives a diploma shall receive from the State Board of Education a State certificate of the grammar grade, good for five years. This certificate is recognized in the State of California.

2. A student who completes the course of study for a high school diploma shall be entitled to receive from the State Board of Education a State high school certificate good for five years.

FOR GRADUATES OF ACCREDITED HIGH SCHOOLS.

Course of Study—One Year.

Education 1—School Economy	4h	.....
Education 2—Methods of Teaching	.....	4h
Professional Study of Public School Subjects: Reading, writing, spelling, composition and grammar	5h	.....
Professional Study of Public School Subjects: Arithmetic and history	.....	5h
Natural History	5h	5h
Physiology	3h	3h
Music (2)	1h	1h
Drawing	1h	1h
Drill or Physical Culture	1h	1h

STATE NORMAL SCHOOL.

FIRST YEAR.

Latin Course.		*German Course.*	
English	5	English	5
Latin	5	Bookkeeping	2
English History	2	Physical Geography	3
Algebra	5	English History	2
Drill or Physical Culture	1	Algebra	5
		Drill or Physical Culture	1

SECOND YEAR.

English	5	English	5
Latin	5	German	5
Ancient History	2	Ancient History	2
Plane Geometry	5	Plane Geometry	5
Drill or Physical Culture	1	Drill or Physical Culture	1

THIRD YEAR.

English	2	English	2
American History	3	American History	3
Latin	4	German	4
Physics	5	Physics	5
Plane Geometry, Review of Mathematics	3	Plane Geometry, Review of Mathematics	3
Drill or Physical Culture	1	Drill or Physical Culture	1

SENIOR YEAR.

Education 1—School Economy	4h	
Education 2—Methods of Teaching		4h
Professional Study of Public School Subjects: Reading, writing, spelling, composition and grammar	5h	
Professional Study of Public School Subjects: Arithmetic and history		5h
Natural History	5	5
Physiology	3	3
Music (2)	1	1
Drawing	1	1
Drill or Physical Culture	1	1

COURSES OF INSTRUCTION.

EDUCATION.

Education 1. School Economy. This course treats of the organization and management of schools. Among the topics considered are the course of study, the classification of pupils, the gradation of schools, the program of study and recitation, and discipline. *Senior Normal. First semester, M. T. W. Th.* Professor Adams. (C 4)

Education 2. Methods of Teaching. This course presents the methods of teaching in a concrete way and yet bases them on fundamental principles. It presents the method as determined by the nature of the developing child. *Senior Normal. Second semester, M. T. W. Th.* Professor Adams. (C 4)

Normal 3. Public School Subjects. The aim of these courses is two-fold: First, to give the students an opportunity to make exact and broad their knowledge of the various subjects taught in the public schools; and, second, to assist the student to a clear comprehension of the educational values of these subjects and to an intelligent knowledge of the methods of instruction best adapted to the realization of these values. Subjects included in these courses are reading, writing, spelling, composition and grammar, arithmetic and United States history. *Senior Normal. Both semesters, M. T. W. Th. F.* Assistant Professor ..... (B 5)

Science 4. Physical Geography. This course provides for such instruction in the elements of the natural sciences as is essential to the proper presentation of nature study

and to the teaching of geography in the elementary schools. Instruction is given by the professors in charge of the various departments of science.

Chemistry—5 weeks. Professor Wilson.
Mathematical Geography—1 week. Professor Adams.
Physiography—5 weeks. Professor Louderback.
Meteorology—2 weeks. Professor Doten.
Zoölogy—5 weeks. Professor Frandsen.
Botany—5 weeks. Professor Kennedy.
Nature Study and Geography—1 week. Professor Adams.

Senior Normal. Both semesters, M. T. W. Th. F. Dean and Professors. (A 5)

Physiology 6. Physiology and Hygiene. Special attention will be given in the second semester's work to the subject of Hygiene, including personal hygiene, hygiene of contagious diseases, emergencies, etc. Laboratory work will consist of some microscopic work on the tissues and organs, simple physiological experiments and demonstrations, chemical experiments illustrative of the process of digestion, and the dissection of vertebrate organs. *Laboratory, Friday, 1 to 3. Senior Normal. Both semesters, M. W. F.* Professor Frandsen. (D 3)

Music 7. Vocal Music. Systematic instruction in the elements of vocal music is given to all students in this course. *Senior Normal. Both semesters, T. Th. Hours to be arranged.* Mrs. Layton.

Drawing 8. Freehand Drawing. Elements of Freehand Drawing and sketching of the simpler objects in nature. *Senior Normal. Both semesters, Friday afternoons.* Instructor .....

LATIN.

Latin 1. Latin lessons, accompanied from an early stage by the reading of simple selections such as found in Collar's New Gradatim. The work of the first year is devoted to the acquisition of an exact knowledge of forms, and the application of that knowledge in translating from Latin into English and from English into Latin. Attention is given to simple etymologies, especially such as throw light upon the meaning of English words. The Latin is read with due attention to quantity and accent. The writing of exercises from English into Latin is continued throughout the course, the student continuing to make the corrections as indicated by the teacher until the exercise is made perfect. Sight translation of simple Latin, such as is found in D'Ooge's Colloquia Latina, accompanies the above studies throughout the year. The student is trained to grasp the meaning of the Latin independently of, and as a preliminary to, the formal rendering into idiomatic English; and is taught to read the Latin aloud with intelligent expression. The equivalent of one hour per week is devoted to translation at sight. *Texts:* Collar and Daniell's First Year Latin; Collar's New Gradatim; D'Ooge's Colloquia Latina. *5 hours, both semesters, First year.*

Latin 2. Miscellaneous selections of easy Latin, including selections from Cæsar's Gallic War. Prose composition based upon the text. Latin grammar: Survey of principles of syntax and peculiarities of word order. Sight translation of easy exercises as found in D'Ooge's Easy Latin for Sight Translation; one recitation per week. Greenough, D'Ooge and Daniell's Second Year Latin; Bennett's Elementary Latin Grammar: D'Ooge's Easy Latin for Sight Translation, and Latin Composition Sheet. *5 hours, both semesters, Second year.*

Latin 3. Selections from Ovid, Vergil's Mythology, Selected Orations of Cicero. Sight translation continued in D'Ooge's Easy Latin for Sight Translation. Scansion, and reading with expression. *Texts:* Kelsey's Selections from Ovid; Gayley's Classic Myths; D'Ooge's Easy Latin for Sight Translation. *4 hours, both semesters, Third year.* Professor Church and Assistant.

MATHEMATICS.

Arithmetic 1. Advance and review work in Arithmetic, Algebra and Geometry. A thorough study of the Metric System of Weights and Measures. Give a variety of problems and exercises in application of the tables. Pupils should know the exact value of

ing with expression. *Texts:* Kelsey's Selections from Ovid; Gayley's Classic Myths; D'Ooge's Easy Latin for Sight Translation. *4 hours, both semesters, Senior year.* Professor Church and Assistant.

MATHEMATICS.

Arithmetic 1. Advance and review work in Arithmetic, Algebra and Geometry. A thorough study of the Metric System of Weights and Measures. Give a variety of problems and exercises in application of the tables. Pupils should know the exact value of each metrical unit and its equivalent in English measure and weight. *3 hours, Second semester, Senior year.*

Algebra 2. Elementary Algebra through equations of the first degree (simple and simultaneous), factoring H. C. F. and L. C. M. Much oral work, especially in factoring. Elementary algebra, fractions, fractional equations, quadratic equations (single and simultaneous) and powers and roots. Increase the amount of demonstration of principles. Introduce liberally purely literal expressions. *5 hours, both semesters, Junior year.*

Geometry 3. Plane Geometry. Much oral work as a training in correct use of language. No algebraic symbolism in this first year of geometry—pure geometry. *5 hours, both semesters, Middle year.*

Plane Geometry, continued. Algebraic methods may be introduced, but distinction between algebraic and geometrical should not be lost sight of. *3 hours, First semester, Senior year.* Assistant Professor Doten and Miss Wheeler.

HISTORY AND CIVICS.

History of England 1. A short course dealing with important epochs rather than a continuous narrative of political events. The purpose of the course is to give a general view of the literary, industrial and constitutional development of the English people. *2 hours, Junior year.*

Ancient History 2. This course during the first half-year deals with the characteristics of the early Oriental and the primitive American peoples. It is designed to give the student an insight into the origin and development of civilization. The last half-year is devoted to a study of Greek and Roman institutional ideas. Constant reference is made to the work of the previous semester. *2 hours, Middle year.*

American History and Civics 3. A study of the development of the political economic, religious, social, and educational life in America. The expansion of Europe and especially of England in American explorations, commerce, and settlement will be considered; also the development of English political principles. Civil government will be studied in connection with the history of the development of our institutions. *3 hours, Senior year.* Assistant Professor Wier.

Note: When special text-books are required, notice will be given at the beginning of the College year. Students are encouraged to own or to have access to a variety of the best and latest authorities. Preparatory students are allowed the use of the University Library, which contains numerous reference works on History and Civics. An attempt is made to render the work in these courses practical by showing the vital connection between the present and the past. Students are trained in the ability to handle historical materials, to form historical judgments, to make comparisons and to formulate opinions.

PHYSICS.

Elements of Physics. Physics is insisted upon as the first and fundamental science requirement because it seems best suited for a training in clear thinking and exact expression and for an introduction to the scientific method of reasoning. It is the aim of the course to make the student familiar with the more simple and important laws of Physics, together with a knowledge of the actual working of the law as shown by experiments, and particularly as illustrated in everyday and home life. The laws of no other science give such ready and important assistance in understanding and controlling our constant surroundings, and the student is encouraged to observe and explain the natural phenomena of the sphere in which he lives. Attention is given to illustration by experiments, performed by the student when possible, or at least thoroughly discussed by him; and also to problem work—not merely arithmetical work, but the testing of the

ability to apply laws to special cases, and to express relations in equational form. Familiarity with the English and metric units is expected. *5 hours, both semesters, Senior year.* Assistant Professor Etcheverry.

BOOKKEEPING,

The elements of Single and Double Entry Bookkeeping are given. *2 hours, both semesters, Junior year.* Professor Lewers.

ENGLISH.

Word Analysis 1. Swinton's Word Analysis with supplementary exercises. Drill in the form, spelling and meaning of words. *3 hours, First semester, Junior year.*

Grammar 2. Whitney's Essentials of English Grammar. Analysis of sentences and parsing. *3 hours, Second semester, Senior year.*

Composition 3. Scott and Denney's Composition—Literature. *One hour a week throughout high school course.*

Oral Reading and Spelling 4. Due attention will be given to the oral reading of both prose and poetry and to spelling and definition. The acquisition of a good working vocabulary by the pupil is the chief aim in the study of English. Miss Short.

LITERATURE.

JUNIOR YEAR.

*Gray's Elegy.
*The Deserted Village.
*The Ancient Mariner.
*Byron (Selected poems).
*Silas Marner.
*Ivanhoe.
Alhambra.
Franklin's Autobiography.
Irving's Life of Washington.

MIDDLE YEAR.

*The Merchant of Venice.
*Sir Roger de Coverly.
*The Vision of Sir Launfal.
*Wordsworth (Selected poems).
*Webster's Bunker Hill Orations.
The Vicar of Wakefield.
Homer's Iliad.
King Lear.
Parkman's Oregon Trail.
Burns (Selected poems).
The Tale of Two Cities.

SENIOR YEAR.

*Julius Cæsar.
*The Idylls of the King.
*Milton (Selected poems).
*Emerson's American Scholar, Self-reliance (Compensation).
*Webster's Reply to Hayne.
Chaucer's Prologue and Knighte's Tale.
Ballads. (Otterburne, Chevy Chase, Robin Hood.)
Lowell's Democracy.
Milton's Paradise Lost, I and II.
Macbeth.
Shelley (Selected poems).
Lamb's Essays.
Bacon's Essays.
Macaulay's Essay on Milton.
Macaulay's Essay on Addison.
Genesis, Exodus, Ruth, Esther.
Proverbs, Job, Psalms, St. John.

The pieces marked with asterisk (*) are required; the other pieces are to be selected from to complete the required amount of work.

GERMAN.

A thorough knowledge of the principles of German grammar must be acquired in the first year. This includes the conjunction of weak and strong verbs, and of the modal and time auxiliaries; the declension of nouns, pronouns, articles, and possessive pronouns; the three declensions of adjectives; rules as far as possible governing the gender of nouns, and the formation of plurals; the uses of the modal auxiliaries, of separable and inseparable verbs, and of the subjunctive. Collar's Shorter Eysenbach may be used at first, with Joynes-Meissner's Grammar later. The translation of easy German should come in the first year, as of Waldnovellen, Germelshausen, or some preparatory German reader. *5 hours, Middle year.*

The second year's work consists of reading and translation of the following texts or

equivalents: Schiller's Maria Stuart, Modern Prose and Poetry. The work in German composition is continued through the year. Harris' German Composition is recommended. *4 hours, Senior year.* Miss Wheeler.

PHYSICAL GEOGRAPHY.

Physical Geography is recognized as a science well fitted to focus the attention of the student upon the physical features of the world round about. It forms the natural stepping stone from the fairy tales of childhood to the study of the natural sciences, and is presented in such manner that the fervid interest in the one shall be transferred to the other. The eyes of the students can in no better way be opened to the wonderful and beautiful in nature, and the fascination of understanding them. Also there is cultivated the powers of observation and careful attention to scientific details, which are invaluable as mental training. The course purposes to give the students a working knowledge of the surface of the earth, the causes operating in its division into various forms, and the relation of all to human needs. The students are encouraged to make original observations on the surrounding country and are aided in drawing correct inferences and conclusions. When practicable, short field excursions are taken, which are supplemented by illustrated lectures on other localities. The course in this way leads naturally into the study of the natural sciences—botany, zoölogy, geology, and so on. *3 hours, Junior year.*

DRILL.

Military Drill is required of all young men who are not physically disqualified.

PHYSICAL TRAINING.

Physical Training is required of all young women who are qualified to take the work in the gymnasium.

ENROLLMENT OF STUDENTS FOR 1903.

POST-GRADUATE DEGREES.

Boyle, Emmet Derby	M.E.	Dayton
Mack, Arthur Page	M.E.	Sumter, Oreg.
Williams, Joseph Alfred	M.A.	St. Louis, Mo.

POST-GRADUATE STUDENTS.

Hall, Joseph Winchester	Drawing	Reno
Nash, Maud E.	Stenography	Reno
Ward, Grace Viola	Stenography	Reno
Webster, Elizabeth	Stenography	Reno

GRADUATES.

Allen, Carrie Henrietta	Liberal Arts	Silver City
Arms, Miranda Ray	Liberal Arts	Vinton, Cal.
Barker, Franklin Edward	Liberal Arts	Reno
Bradshaw, Marcus Givens	Mines	Reno
Doten, Goodwin Stoddard	Liberal Arts	Reno
Erickson, Edward John	Mines	Eureka
Esden, Lillian Estelle	Liberal Arts	Wadsworth
Hesson, Robert Winfield	Mines	Elko
Harrington, Walter Burt	Mines	Virginia City
Johnson, Anna Sophia	Liberal Arts	Eureka
Kelley, Arthur Leon	Mines	Crescent, Cal.
Kent, Florence Virginia	Liberal Arts	Stillwater
Leadbetter, Evan Percy	Mechanical Engineering	Reno
Levy, Della	Liberal Arts	Reno
Luke, Frank Henry	Mines	Reno
Mack, Joseph Page	Mechanical Engineering	Dayton
McClintock, Saxe Milton	General Science	Burton, Wash.
McVicar, James Gordon	Mines	Smith
O'Hara, Bernard Francis	Mines	Virginia City
Peckham, James Garfield	Mines	Reno
Rammelkamp, Elizabeth	Liberal Arts	Dayton
Richardson, Mabel Sophia	Liberal Arts	Reno
Schoer, Claude Phillip	Liberal Arts	Wells
Snapp, Pearl Evelyn	Liberal Arts	Rebel Creek
Stewart, Elbert Alfred	Mines	Reno
Taylor, Alfred Theodore	Liberal Arts	Susanville, Cal.
Weathers, Olive Eleanor	Liberal Arts	Deeth
Wilson, Hicksey May	Liberal Arts	Reno
Whitaker, Fred	Mines	Durango, Colo.

SENIORS.

Arnot, Laura A.	Liberal Arts	Markleeville, Cal.
Blakeslee, Mabel Hayward	Liberal Arts	Reno
Cameron, Jeanette Evelyn	Liberal Arts	Virginia City
Catlin, William Prince	Mines	Carson City
Caton, Albert Joseph	Liberal Arts	Gold Hill

Comerford, James Vincent	Liberal Arts	Virginia City
Delonchant, Fred Joseph	Mines	Reno
Ede, Allen Samuel	Mines	Reno
Evans, Benjamin Allen	Mechanical Engineering	Reno
Fay, Lillian Nevada	Liberal Arts	Sheridan
Gibson, Agnes Pearl	Liberal Arts	Reno
Kearney, William Maxwell	Mines	Empire
McElroy, John Owen	Liberal Arts	Sattley, Cal.
Nathan, Fred August	Mechanical Engineering	Reno
Plumb, Mabel Grant	General Science	Tuscarora
Price, James Henry	Mines	Virginia City
Rammelkamp, Georgia Anna	Liberal Arts	Dayton
Ruddell, Mary Alice	Liberal Arts	Lovelock
Smith, Frank T.	Mines	Reno
Thompson, Frank Philson	Mechanical Engineering	Pioche
Thompson, William Bryant	Mechanical Engineering	Reno
West, George Franklin	Mines	Yerington
Wolf, William Albert	Mines	Winnemucca
Wright, Nathaniel Davis	Mechanical Engineering	Reno

JUNIORS.

Bacon, Mary	Liberal Arts	Reno
Berry, Emily	Liberal Arts	Sattley, Cal.
Bradley, F. Dean	Mines	Palisade
Brannin, Lucy Rebecca	Liberal Arts	Wadsworth
Bulmer, Halbert Boswell	Mines	Virginia City
Chism, Harry Cyrus	Mines	Reno
Cooke, Mary Elizabeth	Liberal Arts	Dayton
Graham, Frank Warner	Mines	Reno
Hand, Catherine	Liberal Arts	Sonora, Cal.
Hershiser, Beulah	Liberal Arts	Reno
Kelley, Mark M.	Civil Engineering	Crescent, Cal.
Leavitt, Edgar I.	General Science	Yerington
Louderback, Harold	Liberal Arts	San Francisco, Cal.
Maxwell, Alice Henrietta	Liberal Arts	Reno
Mayberry, Marguerite Estelle	Liberal Arts	Reno
Nesbitt, James	Mines	Delamar
O'Hara, Philip John	Liberal Arts	Virginia City
O'Neill, William James	Mechanical Engineering	Reno
Palmer, Walter E. S.	Mines	Reno
Patterson, James Druillard	Liberal Arts	Reno
Pearson, William A.	Mines	Virginia City
Pike, LeRoy Francis	Liberal Arts	Reno
Pope, William Joseph	Mines	Virginia City
Roberts, Edward J.	Mines	Tonopah
Ross, Ellabelle Tyndall	Liberal Arts	Virginia City
Sadler, Hermann J.	Commerce	San Francisco, Cal.
Smith, Cassius Crowell	Mines	Reno
Smith, Claude Leslie	Mines	Reno
Souchereau, Obeline Lydia	Liberal Arts	Verdi
Spellier, Louis A.	Mechanical Engineering	Taylorville, Cal.
Standerwick, Harry Maxwell	Liberal Arts	Reno
Stark, Charles William	Mines	Reno
Steckle, Abram H.	Mechanical Engineering	Reno
Taylor, Jobe Terrill	General Science	Reno
Unsworth, Samuel Seabury	Mines	Reno
Weller, Frank A. E.	Mechanical Engineering	Austin
Wilkerson, Harry Thomas	Mechanical Engineering	Reno

Wise, Ollie Nevada	General Science	Battle Mountain
Worthing, Leigh Ernest	Mines	Traver, Cal.
Wright, John William	Commerce	Reno

SOPHOMORES.

Arms, Mary Emeline	Liberal Arts	Vinton, Cal.
Black, William Clair	Mechanical Engineering	Deeth
Blake, Florence T.	Liberal Arts	Virginia City
Blevins, Dollie Adeline	Normal	Peko
Bowler, Emma	Liberal Arts	Hawthorne
Brambila, Juan Lino	Mines	San Francisco, Cal.
Bridges, Charles Henry	Mines	Wadsworth
Cazier, Helen Elizabeth	Liberal Arts	Wells
Cazier, Henry Hallowell	Mines	Wells
Chase, Sarah	Normal	Reno
Davis, Henry F. D.	Mines	Elko
Elliott, Eloise Elizabeth	Normal	Bridgeport, Cal.
Friesell, Frank McClaren	Mechanical Engineering	Pittsburg, Pa.
Goble, Alma	Liberal Arts	Wells
Hamlin, Alfred Street	Liberal Arts	Sierraville, Cal.
Hamlin, Eunice Edna	Normal	Sierraville, Cal.
Hardwick, Alice Ellena	Liberal Arts	Silver City
Harrington, Earl Wilmington	Mines	Reno
Hibbard, Geraldine Conger	General Science	Reno
Hobart, Maude Alice	Liberal Arts	Virginia City
Hoffmann, Gustav Everett	Mines	Reno
Hofner, Harry Francis	Civil Engineering	Hobart Mills, Cal.
Jameson, Curry	Mechanical Engineering	Reno
Jones, Harry Lawrence	Mines	Elko
Jones, Wendell Phillips	Mines	Eureka
Kerby, Edward Eugene	Mines	Reno
Kline, Arthur William	Mechanical Engineering	Reno
Knemeyer, Bertha Kate	Liberal Arts	Yerington
Marzen, Ethel Louise	Liberal Arts	Truckee, Cal.
McBride, Bonnifield Gerald	Mines	Elko
McDermott, Laura	General Science	Virginia City
McDonald, Daniel M.	Liberal Arts	Ely
McMullen, Lulu	Liberal Arts	Deeth
McMullen, Rose	Normal	Deeth
Michelson, Lewis B.	General Science	San Francisco, Cal.
Morse, Ada Eliza	Liberal Arts	Wadsworth
O'Brien, William James	Mines	Carson City
Orr, William Edwin	Mines	Pioche
Peterson, Harriet Irene	Liberal Arts	Reno
Pike, Frances Ella	Liberal Arts	Reno
Regli, Emma Claribel	Normal	Eureka
Ross, Reine Virginia	Liberal Arts	Virginia City
Saxton, Ernest Grant	Mines	Carson City
Scott, John David	Mines	Battle Mountain
Sielaff, Alwine Emma	Liberal Arts	Reno
Smiley, John Albert	Mechanical Engineering	Deeth
Snapp, Mabel	Liberal Arts	Rebel Creek
Taylor, Chester Carlton	Mines	Silver City
Updike, Daniel Haliday	Mines	Reno
Weathers, Leland Stanford	Mechanical Engineering	Deeth
Weeks, Sadie Janette	Liberal Arts	Wells
Welsh, Robert	Mechanical Engineering	Lovelock
Williams, John B.	Mechanical Engineering	Gold Hill

FRESHMEN.

Beadles, Adrian Otto	General Science	Big Creek, Miss.
Bonnifield, Harry L.	Civil Engineering	Winnemucca
Borden, Waite Ernest	Mines	Verdi
Boyle, Alexander M.	Mines	Dayton
Browne, G. Clarence	Mines	Virginia City
Bryant, Louis Parnell	Mines	Wadsworth
Bunch, Georgia G.	Liberal Arts	Verdi
Cahill, Alice	Normal	Silver City
Champagne, James Arthur	Mechanical Engineering	Genoa
Conaway, Margaret A.	Normal	Big Meadows
Curran, Andrew Charles	Mines	Virginia City
Davidovich, Milan	Mines	Sodaville
Ezell, James Madison	Mines	Gardnerville
Ezell, Lawrence	Mines	Gardnerville
Goldstein, Louis	Mines	Gardnerville
Hart, Chester Arthur	Mines	Olivet, Mich.
Hart, James	Mines	Reno
Hunewill, Lucile Eva	Liberal Arts	Bridgeport, Cal.
Knox, Cyril Hugh	Mechanical Engineering	Reno
Leavitt, James Dwight	Mechanical Engineering	Yerington
Levy, Jessie Sheyer	Liberal Arts	Reno
Levy, Leo Samuel	Liberal Arts	Virginia City
Lonkey, Lloyd Christian	Civil Engineering	Verdi
Lowrey, Georgella	Normal	Reno
Mack, Irene Myrtle	Liberal Arts	Reno
McLeod, Angus	Mines	Yerington
Madden, Zita	Liberal Arts	Newcastle, Cal.
Melin, John	Mines	Reno
Morgeneier, Wolfgang W.	Civil Engineering	Floriston, Cal.
Myers, Annie Veronica	Normal	Kettle, Cal.
Nadon, Joseph Alphonse	Mechanical Engineering	Reno
O'Leary, Robert Francis	Civil Engineering	Reno
Palmer, George Edwin	General Science	Reno
Parry, Julius Robert	Mines	Reno
Peck, Bertha Levada	Liberal Arts	Mountain City
Peterson, Frank LeRoy	Mechanical Engineering	Carson City
Petty, Carl Wallace	Liberal Arts	Dixon, Cal.
Prouty, Anna Estella	Normal	Verdi
Pursel, Bertha	Normal	Wabuska
Pursel, Eleanor	Normal	Wabuska
Sawyer, Robert William	Mines	Bridgeport, Cal.
Shonerd, Henry Gilbert	Mines	Carlin
Souchereau, Edna Josephine	Liberal Arts	Verdi
Spencer, John M.	Mines	Reno
Stewart, Fred B.	Mines	Lone Pine, Cal.
Sullivan, Daniel Raymond	General Science	Virginia City
Todd, Rose E.	Liberal Arts	Gardnerville
Tooley, Henry Logan	General Science	Reno
Walker, Lillian Anna	Normal	Palisade
Wheeler, Carl S.	Agriculture	Reno
Wrinkle, George Scott	Mines	Citrus, Cal.

NEVADA STATE NORMAL SCHOOL.

DEGREE COURSE.

Hamlin, Helen Hale.....Sierraville, Cal.

GRADUATES.

High School Diplomas.

Berry, Emily.....Sattley, Cal.
Damm, Anna Caroline.....Lovelock
Finck, Adolphine Bertha.....Wells
Hamlin, Helen Hale.....Sierraville, Cal.
Kerby, Annette.....Reno
Roberts, Minnie.....Wells
Sheehy, Gertrude.....Virginia City
Smith, Bertha M.....Buffalo Meadows
Smith, Loria.....Buffalo Meadows
Warren, Maud.....Wabuska

Grammar Grade Diplomas.

Cahill, Alice.....Silver City
Conaway, Margaret A.....Big Meadows
Dow, Grace.....Michigan Bluff, Cal.
Myers, Annie Veronica.....Kettle, Cal.
Pursel, Bertha.....Wabuska

SENIORS.

Blevins, Dollie Adeline.....Peko
Chase, Sarah.....Reno
Elliott, Eloise Elizabeth.....Bridgeport, Cal.
Hamlin, Eunice Edna.....Sierraville, Cal.
McMullen, Rose.....Deeth
Regli, Emma Claribel.....Eureka

FRESHMEN.

Lowrey, Georgella.....Reno
Prouty, Anna Estella.....Verdi
Pursel, Eleanor.....Wabuska
Walker, Lillian Anna.....Palisade

FIRST YEAR.

Cardinal, Josephine.....Topaz, Cal.

UNIVERSITY HIGH SCHOOL.

SENIOR HIGH.

Araki, Danzo	Commercial	Kunomoto, Japan
Becker, Edith	English	Reno
Booth, Kenneth J.	English	Tonopah
Bradshaw, Belle	Commercial	Paradise Valley
Cardinal, Josephine	Normal	Topaz, Cal.
Cheatham, Austin	English	Reno
Coll, Edna	English	Reno
Evans, Pierce R.	German	Reno
Fay, Irma	English	Sheridan
Frazer, Clair Vernon	Commercial	Reno
Freeman, Fred J.	Latin	Sattley, Cal.
George, Edward Thomas	English	Battle Mountain
Graham, Mabel Clara	Commercial	Reno
Harvey, Agnes Lucile	Commercial	Gardnerville
Hibbard, Sutherland	Latin	Reno
Hogan, Joseph Cyril	Commercial	Reno
Hunewill, Camille	Latin	Bridgeport, Cal.
Lasher, Arthur Fayette	Latin	Kennedy
Mayo, Nellie	Commercial	Markleeville, Cal.
McBride, Laura	Latin	Reno
McMullen, Katie	Latin	Deeth
Miller, Emilia Margaret	Commercial	Reno
Miller, Isabel	Latin	Gardnerville
Parker, Amy J.	Latin	Ely
Rainwater, Ada	Commercial	Reno

Roeder, Charles Daniel	German	Delamar
Scott, Lucia	Latin	Ely
Springer, Sarah Jane	Commercial	Reno
Springer, Susie Belle	Commercial	Reno
Westfall, Vernon Andrew	Commercial	Lovelock
Wilson, Fred William	English	Nordyke

MIDDLE HIGH.

Abbott, Charles A. H. L.	Latin	Reno
Arms, William Street	Latin	Vinton, Cal.
Arnot, John Paul	German	Markleeville, Cal.
Bane, Ellwood	German	Reno
Barker, Louisa	English	Carson City
Branton, Sadie Belle	Commercial	Reno
Bryant, Louise	Commercial	Wadsworth
Case, Irvin	Commercial	Paradise Valley
Christensen, Hannah C.	Commercial	Reno
Clancy, Beatrice	Latin	Beowawe
Darrah, Elizabeth C.	English	Willow Point
Daudel, George H. W.	English	Genoa
Evans, Alvaro	German	Reno
Gulling, Harry M.	German	Reno
Herz, Rudolph R.	Commercial	Reno
Holland, Harry F.	Commercial	Yerington
Hunewill, Stanley H.	German	Bridgeport, Cal.
McCarthy, Lena	Commercial	Reno
McFadden, Reuben, Jr.	English	Gardnerville
McKenzie, Alex.	German	Reno
McMillan, Zetta	Commercial	Reno
Menke, J. Henry	Commercial	Reno
Miller, J. Archibald	English	Gardnerville
Morgeneier, Oscar	German	Floriston, Cal.
Morris, H.	Commercial	Sodaville
Ruddell, Jessie Imogene	Commercial	Lovelock
Ryan, Frank J.	Commercial	Caliente
Southworth, Stoddard P.	English	Gardnerville
Wedertz, Elmer Sinclair	German	Bridgeport, Cal.
Wilkerson, Mabel	Commercial	Carson City

JUNIOR HIGH.

Bell, Archie	Latin	Reese River
Berry, Edith	English	Sattley, Cal.
Brown, Mildred Inez	Latin	Reno
Coates, Rex Norris	German	Reno
Conaway, Dana R.	Commercial	Big Meadows
Corle, Fred B.	German	Reno
Crane, Marvel	Latin	Hobart Mills, Cal.
Hanks, George A.	Latin	Reno
Heise, Henry	Latin	Gardnerville
Hill, Grover C.	English	Verdi
Hogle, Mary E.	Latin	Sierraville, Cal.
Holland, Lydia A.	English	Yerington
Leidy, George Royal	Commercial	Dyer
Liston, Frank	Commercial	Meadow Valley
McVicar, Mary Belle	Latin	Smith
Middleton, Wm. Alexander	Commercial	Lewis
Nelson, Georgia	Commercial	Gardnerville
Nolan, George Francis	Latin	Reno

Petree, Etna Beaufert	Commercial	Leetville
Rowe, Bessie	Latin	Hobart Mills, Cal.
Stock, Albert August	Commercial	Paradise Valley
Tooley, Elizabeth	English	Reno
Tsumura, Dick	Commercial	Reno
Wertheimer, Dolph	Commercial	Delamar
Wilson, Beatrice M.	Latin	Battle Mountain
Wilson, Viva G.	Latin	Battle Mountain
Winter, Henry Esmer	Commercial	White River

SPECIAL STUDENTS.

Adams, Mrs. Romanzo	Domestic Arts and Science	Reno
Avery, Jessie Naomi	Commercial	Reno
Bailey, Roy Edwin	Chemistry	Reno
Belz, Carl S.	German	Reno
Belz, Frank J.	German	Reno
Black, Fred D.	Mines	Virginia City
Bonham, Clyde	Physiology	Reno
Bray, Mrs. J. E.	Domestic Arts and Science	Reno
Bull, Chas. Edward	Liberal Arts	Reno
Burge, Edith	Domestic Arts and Science	Winnemucca
Carter, Atha	Mines	Reno
Church, Alice R.	Domestic Arts and Science	Sattley, Cal.
Crampton, Lucy	Commercial	Reno
Delonchant, Georgina	Domestic Arts and Science	Reno
Doyle, Hazel F.	French	Reno
Drake, Frank	Chemistry	Tuscarora
Dunaway, Myrtis J.	Domestic Arts and Science	Osawatomie, Kans.
Elliott, Leslie E.	Mines	Bridgeport, Cal.
Gulling, Rose Ailene	Domestic Arts and Science	Reno
Heizer, Ott Fleming	Mines	Reno
Holmes, Phemie J.	Commercial	Reno
Howe, Bertha L.	Domestic Arts and Science	Sacramento, Cal.
Huffaker, Isaac W.	Civil Engineering	Reno
Humphrey, Muzette	Domestic Arts and Science	Sattley, Cal.
Jacobs, Mrs. J. Otis	Domestic Arts and Science	Reno
Ladd, Lydia	Stenography	Lovelock
Lawrence, William C.	Mines	Greenville, Cal.
Mack, Margaret Elizabeth	Liberal Arts	Dayton
Meeker, Dan Walter	Commercial	Charlotte, Mich.
Michael, Hepburn	Domestic Arts and Science	Reno
Murray, Elizabeth	Commercial	Reno
Nadon, Josephine	Domestic Arts and Science	Reno
Nixon, Mrs. E. J.	French	Reno
Nolan, Mrs. G. E.	French	Reno
North, Angelina	Commercial	Reno
Palmer, Harry Stanley	Mines	Reno
Pike, Cleve	Commercial	Reno
Quong, George Byron	English, Spanish	Carson City
Reed, Mabel Lucy	Domestic Arts and Science	Lovelock
Riordan, Andrew	Mines	White River
Sciocchetti, Luis	English, Sociology	Reno
Shier, Laura	Domestic Arts and Science	Delamar
Skinner, Lloyd D.	Mechanical Engineering	Reward, Cal.
Sparks, Charles Meigs	General Science	Reno
Steckle, Ivan X.	Liberal Arts	Freeport, Mich.

Stewart, Grace N.	Commercial	Fish Lake
Stewart, H. E.	Assaying	Reno
Sunderland, Anna	Domestic Arts and Science	Reno
Sunderland, Beatrice	Domestic Arts and Science	Reno
Sunderland, Mabel	Domestic Arts and Science	Reno
Thyes, Edna	Domestic Arts and Science	Reno
Williams, Mrs. H. L.	Commercial	Reno
Wilson, Harry A.	Shop	Reno
Wright, W. E.	Mines	Reno

SUMMARY OF ENROLLMENT OF STUDENTS FOR 1903.

Post-Graduate Degrees—		
Mining Engineer	2	
Master of Arts	1	
		3
Post-Graduate Students		4
School of Liberal Arts—		
Graduates	15	
Seniors	10	
Juniors	15	
Sophomores	19	
Freshmen	10	
		69
School of Mines—		
Graduates	11	
Seniors	8	
Juniors	14	
Sophomores	16	
Freshmen	19	
		68
School of General Science—		
Graduates	1	
Seniors	1	
Juniors	3	
Sophomores	3	
Freshmen	4	
		12
School of Mechanical Engineering—		
Graduates	2	
Seniors	5	
Juniors	5	
Sophomores	8	
Freshmen	5	
		25
School of Civil Engineering—		
Graduates	0	
Seniors	0	
Juniors	1	
Sophomores	1	
Freshmen	4	
		6
School of Commerce—		
Graduates	0	
Seniors	0	
Juniors	2	
Sophomores	0	
Freshmen	0	
		2
Carried forward		289

SUMMARY OF ENROLLMENT OF STUDENTS FOR 1903—*Continued.*

Brought forward		289
Normal School—		
Degree Course	1	
Graduates	15	
Seniors	6	
Freshmen	4	
		26
Total University Schools		215

UNIVERSITY HIGH SCHOOL.

First Year Normal	1	
Senior High	31	
Middle High	30	
Junior High	27	
		89
Special Students		54
Grand total		358
Deducting 2 names counted twice		2
Net total for year 1903		356
Enrollment of young men		200
Enrollment of young women		156

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TYPOGRAPHICAL
UNION LABEL
1924 SHOP